

# THE CULTIVATOR:

A CONSOLIDATION OF BUEL'S CULTIVATOR AND THE GENESEE FARMER.

"AGRICULTURE, AT ONCE THE CAUSE AND EVIDENCE OF CIVILIZATION."

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## THE CULTIVATOR.

WILLIS GAYLORD & LUTHER TUCKER, Editors.

### BEES.

Few insects, or animals, furnish more materials for instruction or reflection than the honey bee; their wonderful instincts, their labors, their social regulations, are alike deserving the study and notice of all; and while their labors contribute so much to the comfort of man, they should receive a proportion of his care and attention. The blind Huber was the first to give mankind a history of the bee, its habits and instincts, worthy of the subject; and, although many entomologists have since devoted much time to this matter, it is surprising how few facts they have added to those accumulated by the patient and persevering labors of the blind observer. In the management of this domesticated insect, in the best mode of availing ourselves of its stores without taking its life, and in the protection of it from its numerous enemies, some advances have been made, and to no individual are the public more indebted on this score, than to Mr. WEEKS, of Vermont, whose Manual on the management of the bee, is deserving of great praise for the intimate acquaintance shown with the subject on which he treats, and the great amount of practical information he has condensed into a very small compass. It is a book that should be in the possession of every bee owner, as they can scarcely fail of receiving much valuable instruction from its pages, even should they not be in possession of the hive he has invented, which experience shows to be admirably adapted to aiding in the management of the bee, and to which, as a matter of course, many of his remarks and rules have reference.

There are two methods adopted in keeping bees—one, in either the common or the improved hives, when they multiply by swarming; and the other, when one or more swarms are put into a house or chamber, so large that their labors can be continued for years without swarming. Both methods have their advantages and their disadvantages. Small hives are more liable to be attacked and destroyed by moths, or to be robbed, than very large ones in which there are abundance of bees; but they multiply more rapidly, and starting with a given quantity of bees, will, in a term of years, if safe from accident, produce a greater quantity of honey; at least, some experiments seem to show that is the case; while bees in houses or large hives require less care, as they rarely swarm, and the honey can be taken when wanted without destroying the bee. This objection of destroying the bee, is obviated in Mr. Week's hive, as well as in some other of the improved or patented ones.

Every one who keeps bees should have his hives in readiness, before the time of swarming arrives. They should be made of good stuff, well seasoned and jointed, planed and made carefully, so that the moth may find no cracks in which to deposit its eggs, or the young grub to hide. Hives must always be kept clean and sweet, and if so, a hive that has been used, is as good as one in which no bees have ever been. The hive should be ready for the swarm, as, if one is not offered them soon after coming out and alighting, an embassy is sent out to find one, and the result is, the swarm is lost.

It is still the custom with many, while the bees are swarming, and before they alight, to make all sorts of noises with horns, tin-pans, bells, &c.; but this is wholly useless, and only serves to irritate the bees. When, after once lighting, they have again risen to go away, we have seen a few pails of water, thrown among them, appear to produce a good effect, caused probably by the wetting of the queen bee's wings, and compelling her to retreat from the apparent shower. In most cases, however, when the bees show a disposition to go off, they will generally do it sooner or later. We have known them to leave a good, new hive for the woods, after they had formed several considerable pieces of comb, and been apparently contentedly at work for thirty hours. There is usually very little danger in taking care of bees while swarming, as the workers invariably leave loaded with wax and honey for the preparation of their new home, and are consequently little disposed to be pugnacious.

Many apiarians are very careful to regulate the size of their swarms of bees, by putting two or more small, weak swarms into one hive, especially when such come out late in the season. Mr. Weeks says—

Second swarms are generally about half as large as the

first, and the third swarms half as large as the second ones. Now, if second swarms are doubled, so as to make them equal in numbers with the first, the owner avails himself of the advantage of a strong colony, which will not be likely to be disheartened for the want of numbers, nor overcome by robbers from stronger colonies.

He might have added, that by more fully covering the combs, these are better protected from the moths where the bees are numerous, than in weak swarms. In regard to doubling swarms, Mr. Weeks adds—

"The operation should be performed with in two or three days, [after swarming,] at the farthest four days. The sooner it is done the better, and the less hazardous the experiment. As a general rule, second swarms only should be doubled. Third and fourth swarms should have their queens taken from them, and the bees returned to the parent stock."

The most formidable enemy the bee owner has to encounter, is found in the bee moth; and these, if they once obtain a lodgment in the hive, and deposit their eggs in safety, in the comb, or in the glutinous matter with which the bees line their hives, they are expelled with difficulty, and the destruction of the bees is the common result. The egg of the moth or miller produces a small grub or worm, which burrows in the comb, or lining of the hive, for a time, or secretes itself in crevices of the hive, so that the bees cannot get at them, to remove them or destroy them in the hive. As the grub increases in size, it spins a cocoon or web, which it enlarges as it proceeds in the work of eating the honey and comb, and which protects it from the attacks of the bees. Where there are many bees in a hive, the miller finds it difficult to make a lodgment, and if the eggs are deposited, it is hardly possible for the young grub to escape their vigilance; but a weak hive, will, in such a case, scarcely fail of being lost to the owner. A great variety of methods have been practiced and recommended, to prevent the attacks of the moth. It was at one time supposed that hives placed in the chambers of elevated buildings, would be above their reach; but some instances have occurred in which hives in the garrets of three story stores have been destroyed; and besides, every bee hunter knows it is not uncommon to find the moth or the grub in the most elevated trees in which the bee is found. Dr. Thatcher, a few years since, announced as an infallible preventive, placing the hive in the bee house, on a layer of sweet clean mold or sand, as the miller would not deposit its eggs in such a position. Mr. Weeks, however, as well as others, found that where the moth was numerous, this method afforded no security, as, after standing a few days, the earth under the hive was found full of grubs, which found in it a safe retreat from the bee. As it is found that the moth usually deposits its eggs under the margin of the hive, it is also found that placing the hive on small square blocks at each corner, so as to raise it half an inch from the board, and thus enable the bees to keep the exposed portion clean, is one of the best preventives known. Frequently sprinkling a little fine salt under the margin of the hive, renders the place untenable to the grub, and is not displeasing to the bees. A gentleman of our acquaintance, who has been very successful in his management of bees, uses a preparation of spirits of turpentine, oil of spike, &c. to keep the moth from the hive. These substances are mixed, put in a saucer, over which a piece of muslin is securely tied, to prevent the bees from getting into it; and this is placed under the hive during the time that the moths are the most active. He assures us he has not lost a swarm from the moths, during the time he has used this preparation. We believe those who have adopted the Vermont hive, have found little inconvenience from the moth, and think it probable, that, with such a hive, and frequent examination, (which is indeed necessary with any hive,) bees may, in most cases, be preserved in safety.

When bees are kept in improved hives, or in a common house or chamber, the honey may be removed at pleasure, without interfering with their labors, or causing that irritation which, if repeated, will render bees cross and dangerous. Much more honey will be made in a hive, from which it can be removed when filled, than in an ordinary hive, as the instinct of bees impels them to desist from labor, only where there is no space to store its fruits. When a hive is filled, they only provide their daily supply; if part of the honey is removed, labor is immediately recommenced to replace the quantity abstracted. But, unless there is an abundant supply for the wintering of the bees, none should be taken from the hive late in the season, as starvation and the loss of the whole stock may be the result.

It is sometimes necessary, in unfavorable seasons, or when swarms are late, to feed them to prevent the death of the bees, and the experience of many apiarians would go to prove, that the most proper time for this is during the warm days that occur in the fall, before the commencement of continued cold weather. If the weight of the hive and bees is known, and both should always be ascertained, there is no difficulty, when the season of making honey is closed, in determining, by again weighing, the quantity of honey made, and consequently whe-

ther feeding will be required. In feeding, honey in the comb, or strained honey, may be used; but if the last, a thin board pierced with numerous holes, must be laid on the surface of the honey, through which they can obtain the food, or many will get in the honey, and be lost. Unless bees are nearly destitute of honey, it is bad policy to feed them in the spring, as they fill up the combs that should be occupied by the young bees. From twenty to twenty-five pounds of honey will be required, to carry a swarm of bees from November to the middle of April, or the time when they can recruit their stores. Where honey cannot be had, sugar dissolved, or molasses, may be substituted; but honey is always to be preferred where it can be obtained, as all other kinds of food are more or less apt to induce disease.

There is a very great difference in the qualities of honey made in different places, owing to the nature of the flowers from which it is principally extracted. The honey of a considerable district on the southeast shore of the Black Sea in Asia Minor, is noted for its intoxicating or rather maddening qualities, when new; qualities supposed to be owing to a species of *Hypericum*, which abounds in that region. Bees always extract more or less of the peculiar matter of plants with the honey, and hence new honey is more liable in all cases to induce disease, than that which is old. It is the opinion of many that honey is always pure, no matter from what source it is derived; but this is altogether a mistake. Mr. Weeks says—

"Bees never make honey, but extract it from such flowers, and other substances as yield it, without producing any change from its original state. Good honey is principally taken from white clover, orchards, sugar maple, bass or Linden, and other forest trees, while in blossom. Poor honey is extracted from buckwheat, and low land flowers; hence, those who would save their good honey unadulterated by that which is poor, will remove it before the latter can be extracted."

Various modes have been tried of wintering bees; all of which, perhaps, have been more or less successful. The dangers to be guarded against, are principally those of starvation, extreme or long continued cold, and too much moisture or dampness. The first can be prevented by proper attention to late or early feeding. Death from freezing more rarely occurs, but almost every apiarian, in high northern latitudes, must have lost bees from this cause. Extreme cold also produces death from suffocation; by freezing the breath or vapor of the bees, and so effectually closing all the openings of the hive by ice, that the air becomes incapable of supporting respiration, and death is the inevitable result. Where too much moisture exists, the combs become moldy, and the bees become diseased and unhealthy, and frequently perish. If cold weather continues for any great length of time, the hives should be examined, and if the bees are likely to die, they must be at once removed to a room of a moderate temperature, and where the animal heat can be gradually restored. Some apiarians are in the habit of burying their bees late in the fall, and allowing them to remain in that condition until the spring is so far advanced, that they can gather honey from the early flowers for themselves. Their argument is, that, as bees during their torpid or inactive state do not consume honey, by prolonging this state, the danger of starvation is avoided, death from freezing cannot take place, and if the earth is dry, the combs will not mold so as to produce injury. Mr. Weeks says—

"A cellar made in the side of a dry hill, so covered as to keep out water, is a good storage for wintering bees. There should be two ventilators at the two most extreme parts of the cellar—one near the bottom and on its side to admit pure air—the other through the top or covering to allow the bad air to escape."

Want of air is the most frequent cause of death to bees, and this danger of suffocation requires to be more carefully guarded against than any other. Dryness is indispensable to health; and it should always be remembered, that any extra care which bees may receive, which is necessary to their safety or comfort, is usually amply repaid by the additional quantity and quality of the honey produced.

### SILK—PREPARATION OF COCOONS.

In engaging in the manufacture, or rather the production of silk, many have experienced much difficulty in killing the larvæ in the cocoon, or in curing the cocoon, as it is termed; an operation on which much is depending, as, if not killed, the cocoon is destroyed by the perfect insect in making its way out; and if improperly done, the silk may be seriously injured, or reeled with great difficulty.

Plunging the cocoon into boiling or hot water, exposing them in a heated oven, and some other methods have been used and recommended, but the following process, described by Miss Gertrude Rapp, of Harmony, and which was used in producing the beautiful silks exhibited by that lady at the meeting of the American Silk Society, is probably superior to any other, both for certainty in destroying the worm, and for its effect on the silk. The silks forwarded by Miss Rapp for exhibition, and manufactured last



under her superintendence, consisted of thirty-three yards of black figured dress silk, twelve yards lavender figured dress silk, one and one quarter yards of green velvet, one and a quarter yards of black velvet, three yards plain black satin, twelve yards figured satin vestings, thirteen pieces fancy ribbons, (165 yards,) four pieces plain ribbons, and a raw silk handkerchief; all of the first rate quality, heavy and durable. But to the process of Miss Rapp:

"Since we are killing our cocoons with camphor, we find them as easy to reel at any time after the regular season, as when freshly taken from the spinning shelves. We do it as follows: for 100 pounds of cocoons in the floss, we take a well made box, large enough to hold them; then we take about 3 ounces of camphor, which we moisten with as much alcohol as is necessary to rub it into a powder, a part of which we sprinkle on the bottom of the box, then we fill the box by making five or six layers of the cocoons, and spread a proportional part of the camphor between each of them; we then screw on the lid, and paste strips of paper on all the splits and joints, to make it air tight. After three or four days we take them out and dry them in the shade, till perfectly light. They must be assorted before camphoring, or else the bad cocoons will destroy the good ones."

Miss Rapp thinks highly of the Multicaulis, but advises silk growers not to neglect the cultivation of some other variety, such as the white mulberry, morus expansa, or Brussa, which are hardy, that a supply of early leaves may be secured. For this purpose, the expansa is preferred by her, as the leaves are "large, heavy and glossy," and can be gathered with much less labor than those of the Italian or white mulberry.

Mr. Gill, of Mount Pleasant, Ohio, has also exhibited at Washington, a large quantity of silk velvets, tippet plushes, and hat plushes, which the Native American says, would not suffer in a comparison with the best imported articles. Mr. Gill's silks were made from trees produced from the first year's planting; a vest was made for himself in thirteen weeks from the time he planted his multicaulis buds; and he finds by exact calculation, that every acre of multicaulis buds planted by him last year, has yielded him \$350 nett, a handsome profit certainly. Such exhibitions as these, of Miss Rapp and Mr. Gill, with the statements of Mr. McLean, will convince the most sceptical that we can grow silk in this country abundantly, and that the multicaulis is not yet wholly worthless to the nation.

#### MASSACHUSETTS PREMIUMS.

The Agricultural Society of the Old Bay State does not grow weary in well doing, as the following abridged list of its premiums offered for the year 1840, fully shows. They are certainly magnificent, and should induce extensive competition among the farmers of that state. We are pleased to learn that the condition of the society is prosperous; that its funds are ample, the list of premiums demonstrate.

For the best farm, produce, cultivation, and appearance considered, four premiums of \$200, \$175, \$150, and \$75, for the first, second, third and fourth best.

For the best specimen of rotation in crops, the premium to be claimed in 1840 or 1841, \$75.

For the greatest quantity of vegetables raised for stock, (grain, peas and beans excepted,) regard being had to the size of the farm, number of stock kept, value of the vegetables, and expense of cultivation, \$30.

For roots, the list of premiums is ample, and should induce the cultivators to whom it is addressed to make vigorous efforts at securing them; not perhaps so much for the sake of the cash itself, as for the increased profits, and enhanced fertility of the soil hereafter. The man who manages so as to secure a good crop of roots, may be very certain that the succeeding ones of grain and grass will not be inferior. For potatoes, not less than 500 bushels to the acre, \$30; carrots, 30; mangel wurtzel, 30; sugar beet, 30; ruta baga, 30; English turnep, 20; onions, 20; and cabbages, 20; for half acres, half the above premiums.

Wheat, to the acre not less than 25 bushels, \$20; corn, not less than 80 bushels to the acre, and 75 lbs. in the ear to be considered a bushel, \$20; barley, not less than 45 bushels to the acre, \$20; rye, not less than 30 bushels, \$20; peas and beans, \$20 each.

The following premiums are important, and we hope will receive attention, as the subjects are of general interest to the country. We infer that these premiums are open to all who choose to compete for them, whether citizens of Massachusetts or otherwise.

For an effectual mode for extirpating the locust borer, \$100; do for the apple-tree borer, \$50. We think that premiums directed to the effectual prevention of other insects, such as the canker worm, caterpillar, wheat fly and worm, together with such as prey on the turnep, cabbage, &c., would have been of service.

For the best plow, regard being had to its strength, neatness of work, and cheapness, \$100; raw silk, not less than ten lbs., \$30; best experiment of turning in green crops as manure, \$50; best mode of rearing, feeding and fattening cattle, \$20; for a plow to lay the soil on edge obliquely, regard being had to its other qualities, \$75; best plantation of white oak trees, \$50; do. of locust, beech or white ash, \$25; best live hedge, not less than 50 rods, \$30; best communication on the mulberry in relation to silk culture, showing by experiment or otherwise what species is best suited to our climate, and how best managed, with the effect of the winter on the tree, \$30.

We learn from the N. E. Farmer with some surprise, that censure in some quarters has been cast on this noble society for having not done more or the promotion

of agriculture. The censure is clearly undeserved; for if all that could be wished has not been accomplished, all that could reasonably be expected from the well directed efforts of such a body, has been performed. Massachusetts has been peculiarly fortunate in the individuals selected to manage her agricultural affairs; and under their enlightened guidance and supervision, the most cheering results for the future may be safely anticipated.

#### MR. COLMAN'S THIRD REPORT.

We have had the pleasure of examining the report of the Agricultural Commissioner for the past year; and are happy to bear our testimony to the ability and zeal with which his arduous duties are performed, and the beneficial effects his labors are calculated to produce. Mr. Colman's first report related to the agriculture of some of the eastern counties of Massachusetts; the second report was devoted to the survey of the county of Berkshire; and the present is occupied with the great subjects of wheat and silk.

The legislature of Massachusetts, in 1838, offered a bounty on the cultivation of wheat, and the present report illustrates the effect of that law, by showing the number of claimants, the acres sown, and the amount of wheat produced. The number of claimants for the bounty was 3,642; acres sown, nearly 7,000; bushels produced, 108,570: and the average not far from 15 bushels per acre. We acknowledge this result is rather unexpected to us; having heard so much of the incapacity of the New-England states to grow wheat; for we much question whether the spring wheat crop of any considerable part of New-York will average more than the one stated.

The returns from the several towns are very full, and embrace much valuable matter, which has been skillfully condensed in the report. From an examination of the returns, it appears that much injury was done by the grain insect or worm; that there was much smut; some blight from causes unknown; and much suffering of the crop from drouth. "It appears also from the returns, that there is scarcely an instance named in which lime or plaster has given any decisive and well authenticated favorable results. Wood ashes have been frequently used, and large crops have followed." Ashes, however, sometimes failed.

Mr. Colman enters into an extended argument to show that Massachusetts would find her account in producing her bread from her own soil; and his reasonings are in our opinion conclusive. No people can permanently prosper, who depend on others for their bread. Every other kind of business must fluctuate; and while some individuals or states grow speedily rich from manufactures or commerce, the tiller of the soil, he who grows his own bread, is alone independent. Mr. Colman has most truly said, that "Agriculture, in the view of every sound political economist, is the foundation of national wealth." All other means are only accessories.

The report enters largely upon the cultivation of wheat; its diseases, varieties, methods of improvement, and the best mode of culture. The causes of failure he arranges under the head of rust, smut, mildew, and insects. On all these topics his observations are worthy of being studied by every wheat grower, as embracing much condensed information, which will be every where useful. The grain worm is doubtless the most formidable enemy the eastern wheat grower has to encounter, and on this subject Mr. Colman recommends most strenuously the use of newly slaked lime, dusted thoroughly over the grain just as it is coming into flower. A single application has proved successful, while in others repetition was necessary. Mr. C. announced this preventive, some years since, in the N. Y. Farmer, but the results of some experiments made by farmers in the Valley of the Hudson, did not seem to justify the opinions entertained of its efficacy; the difficulty might, however, lie in the lime, or the period of its application; and it is well worthy of trial wherever the worm makes its appearance in the wheat crop. There are two kinds of worms which feed on wheat in the ear; one, which has been known for a long time in western New-York, and has sometimes produced some injury, though little, when compared with the ravages of the other species in other parts of the country. The other is the worm of New-England and the Hudson valley, which, there is reason to hope, has passed the period of its greatest ravages, as it has been less numerous and destructive to the wheat crops for the last two years, than for several years previous.

On the subject of plowing in clover for wheat, Mr. Colman has the following remarks: "I have always been inclined to the belief, which generally prevails, and which Mr. Phinney maintains, that the higher the state of luxuriance in which vegetable matter was turned in by the plow, the more the land will be enriched by it. But the experience of one of the best farmers in the state has satisfied me, especially as it has been confirmed by another equally intelligent farmer, and wholly unbiased by the judgment of any other person, that the land is more benefited by the turning in of the clover crop after it is dried, than when it is in a state of greenness and full of sap. The opinion is, that if green, it creates an acidity in the soil, prejudicial to the succeeding crop."

In support of the opinion here expressed by Mr. Colman, we may adduce that of one of the most successful wheat growers in the western counties, whose crop is usually from 1,000 to 1,500 bushels. He assured us se-

veral years since, that he had done turning in clover when in full vigor for wheat, as from his experience, he knew that it "soured the soil," and that it would not recover from such a dressing, under three or four years. Still clover was the main stay of his wheat husbandry; but instead of turning it in, he fed or trampled it down upon the land, by cattle or sheep, he preferring the latter, and keeping some three or four hundred for that purpose. His lands are broken up in the fore part of summer, before a great growth of clover is attained; wheat is sown in the fall, and clover seed in the spring. The wheat is plastered, and also the clover in the next year; his course embracing four years. Large quantities of clover decay on the ground, and this, mixed with the manure of the animals, and the mass of clover roots at the time of fallowing, gives a progressive improvement to his soil and his crops, which certainly speaks well in favor of the system.

It appears from that part of the report relating to manures for wheat, that lime has been of little or no value when used, and that crops of wheat of about 30 bushels per acre, have been grown on soils in which not a trace of carbonate of lime existed. There was a small quantity of phosphate of lime, however, present, one and a half per cent, and this could not have been without its influence. It is surprising to witness the discrepancy between the results from the use of lime in Mass., as given in the report, and those produced by the same article, in some of the middle states. The reason of this want of efficiency in the northern soils, does not appear to be satisfactorily ascertained; but the subject is one of such consequence, as to demand the most rigid investigation. We are inclined to the opinion, that where the other matters in the soil are right, a very small quantity of lime is sufficient for all the purposes of vegetation; but as lime appears to be an essential part of the wheat and clover plants, it seems clear, that more or less of it is indispensable to their growth, and the perfection of their seeds. The Berkshire marls have not produced the effect expected from them by some; but, if made into compost in mixture with peat, vegetable mold, or animal manures, we doubt not the value of all would be greatly enhanced. Mr. Colman's remarks on cleanness of cultivation, and recent agricultural improvements, are very just; but we have room here only to refer to them, and must pass to the second part of the report; that which relates to silk.

The report of Mr. Colman on this subject, one which we consider of vast importance to the nation, is without question, the most valuable document yet given to the American public on this topic, and should be in the hands of every one who proposes to enter on the production of silk. His opinions and facts are advanced with fearlessness and discrimination, and the amount of information he has collected and condensed in the report, is truly great. On the subject of the mulberry, the kind of worm, the different methods of feeding, the cost of production, the demand, and the profits of production and manufacture, are all well treated, as well as many other incidental topics connected with these. The report is not intended as a manual for the producer or the manufacturer, but as a general guide to the inquirer; and in this respect, will be found unrivaled.

In determining the question of the capability of this country to produce silk, Mr. Colman very justly distinguishes between the mulberry speculation, and the growth of trees for silk only. To whatever cause we may attribute the mulberry fever of 1838 and 1839, whether, with Mr. C. to a conspiracy among a few individuals to defraud the public in this way, or to an ignorance of the results certain to ensue from excessive multiplication, or, whether we consider it as only one of the many modes in which the mania which infected the whole nation in those years, developed itself, it now matters not; the bubble has burst, and thousands of the mulberry speculators, as well as those in western lands, corner lots, and lithographic cities, have been ruined.

The conclusion to which Mr. Colman arrives, after a survey of the whole ground, and we think it is a correct one, is, that we can, and should, make our own silks. After discarding all the extravagant calculations that have been made, after rigorously making every necessary deduction for the expenses of production, it appears that the silk culture offers as handsome a remuneration for labor, as any of the agricultural pursuits of this country, and in its prosecution embraces the labor of individuals, that could be of little service in other pursuits. The production of silk by companies, has proved a failure in this country, so far; and it appears very certain that the business, if it succeeds, must be prosecuted as a branch of domestic industry. The manufacture of the material when once produced, is another matter. The production of the raw material, introduced as a collateral branch of industry, not as a principal one, must prove a source of eminent comfort and wealth. There is clearly nothing mysterious in the business; all is simple, and easily understood and practiced, by any one that chooses to bring to it the necessary attention and skill. We fully concur in the opinions expressed in the following extract from the report:

"I take particular pleasure in recommending the culture of silk, to my respected friends, the Shakers. They have every element of success; intelligence, skill, exactness, perseverance, abundance of labor, land enough, and buildings already prepared for their operations. They, if any among us, would be the fittest persons to undertake the artificial method of M. Beauvais. Their female aid is of the best description for this culture. They may pursue it to any desirable extent; and I cannot have a doubt, if they should undertake it with



their usual care and determination, their enterprise would be crowned with success."

We should be pleased to extract largely from these reports, and shall have occasion often to refer to them as a magazine of facts collected with great skill, and particularly valuable as illustrating all subjects connected with the matters to which they are devoted.

#### WHEAT.

The experiments which have been made, under legislative encouragement, in some of the New-England states, would seem to have demonstrated satisfactorily, that that part of the United States is abundantly able to produce its own wheat, as well as its corn or potatoes, although as circumstances and prices are, the matter of profit does not seem quite so certain. It has for some time appeared probable to us, that in ordinary cases, when the ease with which wheat is raised in the west is considered, and the low price at which it is afforded, taken into view, eastern farmers, or the most of those in the Atlantic states, can better employ their lands and labor in producing other articles than in raising wheat. There are a multitude of crops of great value, such as corn, grass, oats, roots and other vegetables, of certain growth and ready sale, affording, perhaps, a greater profit than wheat at the present time, and as well calculated to improve the soil and promote permanent fertility as that crop.

It becomes, therefore, a calculation of simple profit or loss, with the eastern farmer, whether he will at a great expense of labor and manure raise his own wheat, or by applying that labor and manure to other crops, usually considered more certain, find the means of purchasing what flour he finds necessary for his consumption. In the west, the attention of the agriculturist must necessarily be turned to wheat, as it is the only crop that can bear transportation to market, and of course, the only one in which the fertile new lands of the west can be brought into direct competition with the more worn soils and laborious culture of the east. As a material for bread, as a food for animals, and as an improver of the soil, Indian corn is not behind wheat in importance; and so long as the west is compelled to furnish us her flour at so low a rate, it may be considered questionable whether, as a general crop, corn should not be preferred to wheat.

In the west, the culture of crops is performed in the most simple way possible. In wooded lands, the process is merely cutting down and burning off the brush and timber; the rooty surface is scratched with the harrow, and as it is usually thoroughly burned over, there are no weeds, but only a clean earth in which the seeds are deposited. The settler has now done his part; nature does the remainder, and the crop rarely disappoints the expectations. We have often seen on such lands Indian corn cultivated by simply taking an old axe, striking a blow into the earth, and depositing the seed in the opening so made, a step with the foot in passing being all the covering required; there was no plowing or hoeing performed, yet such cultivation gave from fifty to seventy bushels per acre. In the rich prairies and river bottoms of the west, corn is grown with still greater facility, but it cannot be brought into competition with eastern grown corn, unless after conversion into the shape of beef or pork, in which its influence is little felt, and beneficially, rather than otherwise. The time will probably come, when the strong vegetable properties of these western soils being exhausted, labor and manures will be required to continue their productiveness, and then the natural increase in the price of flour may render it proper for the east to enter more fully into its culture.

There is a feeling among many eastern farmers, notwithstanding the proof that the experience of the last few years has afforded, that the east can never, under any system of farming, be made to produce wheat as it once did. This opinion is absurd; wheat is properly the grain of the world, and is now grown in increased quantities on lands from which it has been cropped since the days of Julius Cæsar. The renovation of lands, after being reduced almost to sterility, it is true, must be a work of time, and requires usually far more skill and labor than to preserve lands, naturally in good heart, permanently in a state of productiveness. The true course seems to be, to lessen the quantity of land under cultivation, where it is nearly run down, and thus give to less land the labor and the manure now spread over a larger surface. The deterioration caused by naked fallows can and must be remedied, by a rotation of crops, deeper and finer tilth, and liberal and judicious applications of manures. Naked fallows should never be permitted, unless they become indispensably necessary to free lands from foul stuff; and the cultivation of hoed crops will, if the course is thorough, usually effect this object in a still more complete manner. Green crops, (the roots, &c.) which, having large tops, draw much of their nutriment from the atmosphere, must be alternated with the grain crops; the skinning system abandoned; the ambition to cultivate a great number of acres done away; and in its stead a desire to reap a large product from a few acres, implanted; the principles of the new husbandry be studied and practiced; and the time will come when wheat crops of thirty bushels an acre will not be a novelty on lands now pronounced utterly unfit for its culture.

The excellence and nearness of markets in almost every part of New-England; the facilities with which every product of the earth can be disposed of at a handsome profit; the varieties of pursuits, such as the ma-

nufacturing, mechanic, and commercial, which furnish profitable employments for multitudes, and prevent the weight of population from pressing on the agriculturist, as it must of necessity do more or less in the west; all contribute to render the production of any single crop of comparatively little moment, and perhaps that of wheat, as a whole, the least of any. Nothing can be more true than that the farmer, if it can be done at a reasonable expense, should grow on his own farm all that he requires in his family, of which the soil is susceptible; but it is also true, that if his bread is the product of his own labor, it in effect matters little whether that labor has been given to wheat, or corn, or vegetables for market, or silk, or any of the thousand things which by exchange can be converted into food with mutual benefit to all parties. But whatever crop may be attempted, the grand object to be kept in view, is the permanent improvement of the soil, and any one that effectually accomplishes this, be it wheat, or corn, or roots, cannot in the end be an unprofitable one.

#### Mr. Webster and English Agriculture.

There are no individuals more fond of travel than the people of the United States; and not a year passes in which men of ability and the talent for accurate observation, do not spend more or less of their time abroad. It is unquestionably a pleasant and instructive manner of spending a few months, or even years, in this sight-seeing in Europe; but while volume after volume on the antiquities, the customs and habits, and the works of art and luxury observed by tourists, have appeared, we do not recollect a work by an American on the state of foreign agriculture, or scarcely so much as an allusion to the topic by any one. This may in part have arisen from the fact that few tourists are acquainted with agriculture at home, and therefore incompetent to describe its situation or processes abroad; or that in a rapid transit over a region, there is little opportunity for accurate observation; still, to whatever cause it is owing, it cannot be otherwise than a subject of regret that the cultivation of the soil has attracted so little notice by those who have witnessed the state of farming and its improvements in other countries. We should know what others are doing, that we may determine whether our course is the most beneficial; if we buy our bread of a neighbor who has no larger or better farm than we have, it becomes an important inquiry to us, how he manages to sell, while we are compelled to buy.

There are, however, some honorable exceptions to this apathy on the part of American travelers in Europe; men of the first standing, who have not thought it beneath them to attend to the farming operations of those countries, the methods of agriculture pursued, the influence which climate has on the productions of the earth, and the causes of that general superiority which their husbandry exhibits over ours. One of the latest of this class of observers, is Mr. Webster, who appreciating the importance of the agricultural interest to the country, and the necessity of advancing it by every practicable method, gave to the subject much of his attention during his late residence abroad. The results of his observations, which he presented in an address, before one of the agricultural meetings of the Massachusetts legislature last winter, and which has been revised by himself before publishing, now lies before us, and is an interesting and instructive paper, fully proving the discrimination and extent of his observation, and the benefit which would ensue, if those who travel would avail themselves of their opportunities as successfully as he appears to have done. As we cannot find space for Mr. Webster's remarks in *extenso*, we must be content with giving a brief abstract of the most important points alluded to by him.

"The primary elements which enter into the consideration of the agriculture of a country, are four; climate, soil, price of land, and labor."

In all these points England differs from this country. The climate of each country is materially affected by its respective situation in relation to the ocean. As the prevailing winds in both countries are from the west, the equalizing and moderating influence of the ocean is continually experienced on the temperature there; and the consequence is, that our winters are colder, and our summers hotter than in England. This alone creates a material difference between their agriculture and ours.

"The soil of England is mainly argillaceous; a soft and unctuous loam on a substratum of clay."

This was the predominant characteristic in the parts he visited. The soil in this country is generally harder, containing more stones, and in that respect more difficult to work, than in England.

The price of land in that country is another important element in agricultural calculations; it may be stated three times as high there as in Massachusetts.

The price of labor differs, in different parts of England; but on an average it may be set down at one half the price it commands here.

English cultivation is more scientific, more systematic, and more exact, a great deal than ours. A great population is to be supported on a small surface; lands are dear, rents are high, and labor cheap; careful and skillful cultivation is the natural result of this state of things. It is on the fundamental idea of constant production without exhaustion, that the system of English cultivation, and indeed of all good cultivation, is founded. England is not original in this. Flanders, and perhaps Italy, have been her teachers. This system is reduced to practice in a rotation of crops. White crops

are not allowed to follow one another. White crops are wheat, barley, rye, oats, &c., and in this country corn is to be included, though not as exhausting as some of the others. The green crops are turneps, potatoes, beets, vetches, tares, &c., but the turnep is the great green crop of England, and its cultivation has wrought such changes, that in fifty years, it may be said to have revolutionized English agriculture. Plants derive a large part of their nutriment from the air. The leaves of plants are their lungs; and the larger the surface of leaves exposed, the greater the supply of food from this source, and the less exhausting the crop. A large proportion of the turneps are fed off where they grow, and thus the earth receives the direct benefit of the manures, both solid and liquid. A large amount of land is cultivated in turneps, and fields of three, four, and even five hundred acres, are met with. The rotation of the white and green crops judiciously arranged, keeps the fields continually productive, and constantly improving.

Draining is another part of farming in which the English have made great progress. Covered and tile draining is preferred, and if expensive at first, the increase of the crops, and the permanent amelioration of the soil, amply rewards the outlay. Draining, owing to the difference noted in the character of the soil, can never be as extensively required or practiced in this country as in England and Scotland; yet there are large quantities of land in this country, now almost worthless, which draining would render most valuable and fertile. Experience also proves that draining contributes materially to the health of a district.

Mr. Webster gave some examples of the manner in which irrigation is practiced in some districts, and the beneficial results. For irrigation, a stream below a town is preferred to one above, for the reason that it contains more fertilizing matters. From such a stream the water is taken in a canal and carried in such a manner that it can be allowed to escape in small quantities as required, and after irrigating one set of meadows, is again received in another canal and performs the same effect in other and lower places. The land is not flooded in this case; the water does not stand upon it, but is applied for a few days, several times in a year, say in March, May, July, and October. On lands thus irrigated, three crops of hay are cut in a season, of not less than two tons per acre at each cutting.

With respect to implements of husbandry, Mr. Webster was of opinion that the English on the whole had no advantage over us. Their wagons and carts were no better, their plows he thought were no better any where, and in some counties far inferior because unnecessarily heavy. As a whole he thought English implements cumbersome and heavy, requiring more strength of team, or power in movement, than American ones, and their performance no better.

Of the plants cultivated in England, and but little known in this, the common English field bean is the most important. It produces from twenty to forty bushels per acre; is one of the best kinds of food for animals, particularly the horse, and requires a well manured strong clay soil.

The raising of sheep in England is an immense interest. She probably clips fifty millions of fleeces this year. "The average yield may be six or seven lbs. per fleece." The principal classes are the *long* and *short* woolled, and the Leicester and South Down may be considered the types of these respective varieties. The common clip of the former was from seven to eight, and the latter from three to three and a half or four pounds.

Oxen are rarely trained in England for the yoke; though in Devonshire and Cornwall ox teams are sometimes employed. In traveling thousands of miles in England, Mr. Webster saw only one ox team, and here they were harnessed like horses, and worked one before the other. Cattle are reared for the dairy and the butcher almost exclusively.

The cattle of England had greatly improved, and were still improving. He had seen many of the best stocks and best animals, and thought the Short Horns imported into this country were often good specimens. He thought the improved Short Horns the finest cattle in the world, where plenty of good feed and some mildness of climate invited them. But since we must raise animals for work, he thought the Devonshire furnished excellent animals for our use; and their hardy nature made them better suited to the coarse and sometimes scanty herbage of New-England, than the Short Horns. The latter he thought the best, altogether, for the western states, where there is an overflowing abundance, both of winter and summer feed, and where, as in England, bullocks are raised for beef only. The Leicester sheep were like the Short Horns. They must be kept well, and should always be fat. The South Downs are highly esteemed, both for wool and mutton, and are well adapted to their light soils, hilly lands, and a scantier herbage.

In conclusion, Mr. Webster said—

"Agriculture feeds us; to a great extent it clothes us; without it we could not have manufactures, and we should not have commerce. These all stand together, but they stand together like pillars in a cluster, the largest in the center, and that largest is agriculture. Let us remember too, that we live in a country of small farms, and freehold tenements; in a country in which men cultivate with their own hands, their own fee simple acres; drawing not only their subsistence, but also their spirit of independence and manly freedom, from the ground they plow. They are at once its owners, its cultivators and its defenders. And whatever else may be undervalued, or overlooked, let us never forget that the cultivation of the earth is the most important labor of man. Man may be civilized, in some degree, without great progress in manu-



factures, and with little commerce with his distant neighbors. But without the cultivation of the earth, he is in all countries, a savage. Until he stops from the chase, and fixes himself in some place, and seeks a living from the earth, he is a roaming barbarian. When tillage begins, other arts follow. The farmers, therefore, are the founders of human civilization."

#### RECLAIMED MEADOWS.

There are in all parts of our country more or less lands called swamps, bogs, or bog-meadows, as they may happen to be bare, or productive of a little worthless grass. Now such spots are usually the richest part of a farm, being points on which for ages the most valuable parts of the surrounding fields, the salts, manures, and fertile mold, have been centered, and where they have been preserved as in close reservoirs ready to reward the hand and the labor that, directed by skill, should endeavor to turn them to account in the cultivation of land.

One of the surest indications of an improved agriculture in this country, is the notices that frequently meet our eyes in the contemporary journals, as well as those furnished for the Cultivator, of the reclamation of these long neglected places, and their extreme productiveness when brought under cultivation. They are found not only to be reservoirs of the richest manures, requiring only to have the acidity which such wet places are sure to give the vegetable matter collected in them, corrected by lime, or fermentation, by mixture with other manures, but by proper treatment, to be capable of giving crops of roots or grass of the most luxuriant kind.

If it is desirable to convert the earth of these natural meadows into manure, the best method is to draw it in the summer or fall to the barn yard, which should be covered to the depth of at least a foot, with the transported material. This will absorb the liquid manure of the yards, be mixed by the feet of the animals, with the long manure made from waste stalks, hay, straw, &c. and in the spring, when wanted for the crops, will be found more valuable than barn yard manure usually is.

If it is desired to cultivate the earth where it is, or convert the swamp into first rate tillable land, thorough draining in every part must be attended to, or nothing can be done to advantage. If made dry enough for the plow, let the surface be fully pulverized with that implement. If bogs or brush abound, they must be grubbed and burned; and a dressing of lime or ashes, or even mere common sand or gravel, will produce an excellent effect. The expense of reclaiming such lands is considerable at the outset, but if well performed, the first crop will usually pay for the improvement; the land will generally be doubled or trebled in value; and not unfrequently a source of malaria and disease removed from a farm or neighborhood. The reports on reclaimed meadows in the Transactions of the Essex County Agricultural Society, show the importance of this improvement most decisively, and the successful results should stimulate all who have such lands, to reclaim them without delay.

#### THE HOP FLY.

J. H. D. of Hamilton, wishes to learn whether we, or any of our correspondents, know of any preventive of the ravages of the hop fly, generally known to hop growers as the green fly. For ourselves we can answer we do not, and though our experience in their growth has been limited, we have found no remedy of much or indeed any avail, when once the plant was seriously attacked by this pest. If any of our correspondents or readers have been more fortunate, we shall be most happy to lay the information before the public.

The green fly is a species of Aphis, peculiar to the hop, and is its most formidable enemy. Its rapidity of increase is not overrated by Mr. D., and is owing to the singular power possessed by this insect, in common with some others of the Aphis tribe, of being fertile through several generations; Reannur says six or eight, from a single parental impregnation. The young Aphis, too, of the earlier generations are nearly all females, and as only a short time is required to arrive at maturity, their increase, when they once establish themselves on a plant, is astonishing. Their position, too, on the under side of the leaf, renders them secure against any application that would not be fatal to the vegetation. In the hop districts of England the only plan that holds out a prospect of relief, is frequent examination of the fields during the time the Aphis usually makes its attack, and if discovered in its first colonization, the extirpation of the whole, vine and insect, is immediately performed. The work on the hop, published by the London Society, in describing the diseases of the plant, and the insects that prey upon it, says that when the fly first appears, "efforts are continually made to check its progress and prevent the injury by burning heaps of damp straw, fern and other matters, during a day or two on the windward side of the grounds, together with sulphur and damaged tobacco, in order to fumigate the plants; a practice from which no harm can arise, for if it does not always drive away or destroy the fly, the ashes spread will tend to destroy the insect larvæ that may be in the ground."

Mr. London, in his account of the hop and the green fly, says, "This insect is ignorantly supposed to be produced by the prevalence of the northeasterly winds. Under such a state of the winds they rarely fail of covering the leaves, and propagate with such rapidity as frequently entirely to destroy the crop; as when they have once obtained possession, they seldom or never leave them until the leaves are destroyed. This insect generally

attacks the forwardest and most luxuriant hop vines. Their removal depends chiefly upon the wind changing to the south, and the setting in of more mild, warm and temperate weather." Many fields, however, are so injured in a short time, as to be abandoned to their fate.

So long as the hop is liable to insects and diseases for which no preventive is known, it will continue to be, as it has hitherto been, one of the most fluctuating and uncertain of crops, and of course one of the variable in prices. The discovery of a preventive of the attacks of the hop fly, would be a public benefit, as noxious articles are sometimes employed, when hops are scarce, to give to beer the bitter flavor only conferred in perfection by the hop.

#### VALUABLE IMPORTED STOCK.

One of the most important importations of cattle and sheep that has ever taken place in this country, has been made by the Hon. ERASTUS CORNING of this city, and Wm. H. SOTHAM of Jefferson county. It consists, as will be seen by the list given in another part of this paper, of twelve cows, calves and heifers, and twenty-five sheep. The cattle are of the Hereford breed, from Herefordshire, and the very best animals that could be selected. The sheep are of large size, being the Cotswold cross with the Bakewell, and probably as fine animals of the kind as ever imported. No one can avoid being struck with the extraordinary size of the cows, their fine forms, and their muscular development, denoting strength and power, and showing the basis of the reputation which the Herefords formerly had for working cattle, and now have for feeding. The expense of the importation was nearly eight thousand dollars.

The attention of cattle breeders has, within a few years, been much directed in England to the improved Herefords, and principally in consequence of the numerous prizes which these cattle have taken at the great Cattle Shows of Smithfield, and lately at the Fairs of the English Agricultural Society. Although they have not, in general, reached the great weight of some of the Improved Durhams, yet the rapidity with which they take on flesh, the superior excellence of the beef, and their early maturity, render them great favorites with the English feeders, and the Michaelmas Fair of Hereford, is one of the finest shows of cattle in that kingdom. We copy the following from the Encyclopedia, published by the Society for the Diffusion of Useful Knowledge, vol. xii. article *Herefordshire*, as an accurate account of the general qualities of the breed:

"The prevalent breed of cattle is that for which this country is justly celebrated: their color is red, with white or mottled faces, and frequently white along the back and about the legs. Good milkers are occasionally found among the cows, and it is possible that a race might be reared from this stock, that would be useful for the pail, but dairy farming is never practiced here, and the milk of the cows, which are kept only for breeding, is given to the calves. It was formerly the custom to work the oxen at three or four years old, and to feed and send them to market at five; but there is now a complete change of system. The oxen are no longer worked, but are commonly fed when they are two years old, and sent to market before they are three: their early maturity and the readiness with which they fatten, make them suited for this system of farming. Graziers from the south and the middle of England drive a large number of this popular stock from the Hereford Candelmas and October Fairs. The Hereford ox feeds more readily than the Devon, and in proportion to the quantity of food consumed, lays on a greater weight of flesh than a Durham ox; the result of a trial of this kind may be seen at page 34 of Youatt's 'Cattle.' That the flesh of the Herefords is of a finer quality than the Durhams, is proved by the superior price per stone which it obtains in the Smithfield market."

Comparatively few of the Herefords have as yet been introduced into this country. Mr. BEMENT, of this city, has a bull and a cow of this breed, which are fine animals; the Hon. W. C. RIVES, of Virginia, and the Hon. HENRY CLAY, of Kentucky, have made importations of these animals, and they have been in their possession so long, that either of these gentlemen could speak fully of their value as compared with the Short Horns, in the points of feeding, milk and endurance of our climate; and we think at this time, when attention is turned to the subject, they would confer a great benefit on the American public, by stating the results of their experience, and their opinions with regard to these cattle. We need not say we should be happy to be the medium of presenting such history and opinions to the public.

We have presented these remarks, in the hope of eliciting from some who are qualified for the task, a discussion of the comparative merits of the Herefords and the Short Horns; and their adaptation to our country for the purposes of feeding and the dairy. Both are valuable breeds; the question to be decided is, which, in all respects, is the most proper for us.

#### New-York State Agricultural Society.

We give place with pleasure to the communication of "Agricola Publicola." The few who attended the last meeting of the Society, convinced that some more active measures were necessary to give interest and animation to its meetings, and to enlarge its sphere of usefulness, were unanimously of the opinion, that autumnal meetings of the Society should be held alternately in different sections of the state, and a resolution was passed, directing a semi-annual meeting of the Society to be held the ensuing autumn, at such time and place as the Executive Committee should deem it expedient to select, in conjunction with the meeting of some of the county societies. We hope the officers of the State Society will take early and efficient means to carry their resolution into effect.

#### "IMPOSITIONS OF SEEDSMEN."

We have received from our friend, D. Fullerton, Esq. of Orange Co., a communication of considerable length, and commenting with much severity, on what he, in common with many others, denominates the fraudulent practice of many of those engaged in the business of seedsmen. As several papers, however, have appeared in our columns on this subject, some of them having reference to the particular items enumerated by him, our correspondent will pardon us, if we submit only the material part of his communication.

To show the profits resulting from this business, Mr. F. submits the following table of articles purchased by him, at the prices annexed:—

"Skinless oats, 3s. per qt. ....	\$12 00	per bushel.
Dutton corn, 2s. per pint, ....	16 00	" "
Rohan potatoes, 6 cts. each, ..	12 50	" "
Millet seed, .....	4 00	" "
Pumpkin seeds, 3 cts. each, ..	3 00	" 100.
Chinese tree corn, 2s. per ear, ..	64 00	" bushel."

Of his experience with these costly articles, Mr. F. found his oats "meatless, as well as skinless, smutted and shriveled;" his Dutton corn he was pleased with, "but has never been able to sell as high as the purchase price;" his Rohans "promise to be a valuable acquisition," and says, "I think if I could retail them at the seedsmen's price, I could make a living by tilling the ground;" of the pumpkin seeds, there is no complaint, so it is right to infer, that "Yankee notion" did well; and the same of the millet; but the Chinese corn, that "God-send from the Celestial Empire," proved, with Mr. Fullerton, as with thousands of others, the veriest "take in" that can be well imagined.

That, in some few instances, the conduct of seedsmen may have deserved the severest condemnation, cannot be denied; and such cases should be held up to the public in their true light. The man who knowingly imposes a worthless article on the public, or which he knows is not the one the purchaser supposes it to be, and possesses none of the qualities attributed to it, must expect the execration of every honest man. But the great body of a most useful and deserving class of citizens, should not be made responsible for the misdemeanors of a few; and justice demands that the difference between intentional imposition and unintentional errors, should be recognized. A seedsmen is the avenue through which a multitude of new things, plants, seeds, and implements, find their way from the first propagators or inventors, to the agricultural public. They cannot, in all cases, have tested them themselves, and must of necessity, offer them on the recommendation of others. They may be valuable; if so, the public is a great gainer, as in the case of the Dutton and Brown corns, the Rohan potatoes, &c., or they may be worthless to large parts of the country, as the Chinese corn and Skinless oats; but in this there is no imposition, unless the fact of their being different from what they are represented to be, is known to the vendor.

That the price of plants and of seeds on their first introduction, should be higher than afterwards, is what naturally must be expected. They are frequently procured at great expense, on account of the recommendations they have received, and must be sold at corresponding prices. Of their value for any particular purpose or location, the farmer is as good a judge as the seedsmen, and one, and sometimes both, may fail in their estimate of the adaptation, or actual value, of a new seed or plant. The loss is, however, to the farmer usually trifling, and unless there is evidence of wilful deception, such failures cannot in ordinary fairness be charged upon the seedsmen. In the agricultural operations of the day, the seedsmen holds a most important station; and while departures from rectitude, or indications of dishonesty, should be visited with the severest reprehension, occasional mistakes, or errors of judgment, must be tolerated for the sake of the greater good conferred by these servants of the farmer. Our correspondent will accept our thanks for his kind wishes, and we assure him, we shall at all times be happy to hear from him on subjects of interest to the readers of the Cultivator.

#### INJURIOUS EFFECTS OF WEEDS.

The question has been asked, how it was possible for China and Japan, with the ordinary products of agriculture, to furnish bread for a population, equaling, according to the latest census, about 300 persons to a square mile. The answer is to be found in the care with which every foot of ground is cultivated; in the fact that few animals are kept, either for labor or food; and more perhaps than any thing else, in the entire freedom of the crops from every thing that can reduce their quantity or quality. Not a weed of any kind is to be found in the fields, and the most positive enactments and most assiduous attentions are directed to keeping the country free from them.

Few are aware how much weeds, or grasses, growing in a grain crop, detract from its value, by lessening the product. A vigorous root of charlock or thistle will draw from the earth the nutriment that would have given fullness to half a dozen ears of wheat; and where these, or any other foreign substance is permitted in a growing crop, that is sure to suffer in proportion to the quantity of the foul material present. Weeds injure a crop in two ways; by the room they occupy, to the exclusion of the valuable plants, and by the nutriment of which they rob the growing crop. We have seen fields in which the wheat maintained a dubious struggle with the red root, charlock, or thistle; and where the stem



and the ear both showed how much they needed to be relieved from such crowding and unwelcome neighbors. On the best cultivated farms of England or Belgium, not a plant or weed of any description can be found in a growing crop; and in some years the Earl of Leicester has offered a reward, but without success, for the smallest or any weed that could be found in hundreds of acres of his turneps, or his wheat.

In this country, but few experiments have been made to show the difference of product between clean and foul fields, but several are recorded in Sinclair's Code of Agriculture, some of which we shall give, to call the attention of farmers to this point, and show that the labor expended in clearing fields or crops from weeds, is far from being lost, as many would seem, from their negligence in the matter, to suppose.

"1. *Wheat*. Seven acres of light gravelly land were fallowed, and sown broad cast; one acre was measured off, and not a weed was pulled out of it; the other six were carefully weeded. The unweeded acre produced 18 bushels; the six weeded acres 135 bushels, or 22½ bushels per acre; which is 4½ bushels, or one-fourth of the whole, in favor of weeding.

"2. *Barley*. A six acre field was sown with barley, in fine tilth, and well manured. The weeding, owing to a great abundance of charlock, cost 12s. per acre. The produce of an unweeded acre, was only 13 bushels; of the weeded, 28. Difference in favor of the weeding, 15 bushels per acre, besides the land being so much cleaner for succeeding crops.

"3. *Oats*. Six acres were sown with oats; one acre plowed but once and unmanured, produce only 17 bushels. Another six acres plowed three times, manured, and weeded, produced 37 bushels per acre. This experiment proves that oats require good management, and will pay for it, as well as other crops. Ten bushels of the increased produce may be fairly attributed to the weeding, and the other ten to the manure."

It is admitted that the labor and expense of weeding a crop, is considerable; but if the difference be such as is here stated, and there is no reason to doubt it, as it is abundantly corroborated by other experiments, then it should be more generally and promptly attended to than it is. If our farmers could raise 4½ bushels of wheat, 15 of barley, or 10 of oats, additional to their usual crop per acre, the effect would at once be felt in every department of labor in our country. No one can travel through our country before harvest time, without being convinced that millions of acres might have their products increased in as great a ratio as the above, by entire freedom from weeds. Farmers would be gratified could they have their lands tax free; but experience shows, that to have them *weed free*, would be of far greater importance to them.

#### BELGIAN HUSBANDRY.

In no part of the world has the art of cultivating the soil attained greater perfection than in Belgium, and the numbers devoted to a description of the husbandry of that country, and the manner in which, by persevering industry, its barren sands have been converted into the most fertile of soils, are not the least valuable of the series published by the London Society.

Farmers in this country frequently speak of the impolicy of extensive outlays in improving their farms; it will not pay the expense, is the objection most frequently made, and one which is the most forcible, in reply to those who urge upon them systems for the permanent amelioration of their soils. We have sometimes been disposed to consider this feeling of regard to immediate expense or profit, more as the natural result of that restlessness of character which is said to belong to us as a people, and which leads us to suppose, with reason, that what will not pay *now*, may be lost to us, (as from our known migratory propensities, it is scarcely probable our lands will remain in our hands or those of our children, for any considerable time,) rather than of any disinclination to encounter the labor which an improved husbandry requires.

The benefits of a good system of farming, or the evils of a defective one, can only be fully seen and appreciated in a considerable term of years. On such lands as the greater part of those in this country are, when brought under cultivation, what may be called the skinning or scouring system, in which repeated crops, with little labor and no manuring, are taken off, may be the most profitable for the time, though fatal to the soil, and the prosperity of the farmer in the long run. But when the permanent value and productiveness of lands are taken into consideration; when it is remembered that it is much easier to keep lands in heart, than to restore them when reduced to sterility; and that the eventual agricultural prosperity of a country is depending on a correct system of management, the importance of selecting the best models, and conducting our farming operations with reference to future results, as well as present profits, becomes perfectly evident.

To illustrate the effects of the two systems of farming, or rather to show the results of the improved one, as compared with the one generally practiced with us, we give a few extracts from the papers on Belgian farming, and the first is a description of a farm of 140 acres on the river Lys, near Courmay.

"Of this farm about 20 acres are in fine meadows, along the river, occasionally flooded in winter, but not irrigated; about 10 acres are rich, heavy land, adjoining the meadows, in which beans and wheat thrive well; all the remainder, about 105 acres, lie in an oblong form, bounded by a hedge-row, at one corner of which, nearest the river, stand the farm buildings. A road or path, six feet wide, runs through the middle of the field, and the road or path that leads to the farm yard skirts one end of it. The soil of this large field is a rich, light loam, which lies over a substratum of clay, but at such

a depth as to be perfectly sound and dry. It is not very fertile in its own nature, but has been rendered so by many years of an improving husbandry. Every part of the land has been repeatedly trenched and stirred two or three feet deep; and the immense quantity of manure, chiefly liquid, put on year after year, has converted the whole into a rich mold. The strength and vigor of the crops bear witness to the goodness of the husbandry. As we walked along the middle path, which is just wide enough to admit the wheels of a cart, the whole produce might be seen at once. The flax had been pulled, and remained stacked on the ground. The colza [cole or rape seed,] had been beat out, but the stems remained where they had been cut. There were fifteen acres of most beautiful flax, of a bright straw color, and the stems a yard long. This, besides the seed, was worth in the stack from 25 to £30 per acre; 12 acres of colza had produced about 50 quarters of seed; eighteen acres of oats looked so promising that they could not be set at less than nine quarters per acre; eighteen acres of wheat, which stood well, with short, plump ears, are valued at five quarters per acre; eighteen acres of rye, partly cut, with the straw above six feet high, would probably produce rather more than the wheat. There were six acres of white poppy, of which every plant was strong and upright, and the produce of which was estimated at from twenty to twenty-three bushels per acre; six acres were in potatoes, expected to produce at least twenty-two hundred bushels. About an acre was in carrots, which looked fine and large; twelve acres were in clover, nearly the whole of which was cut green to give the horses and cows; it produces three good cuts in a year, when it is not allowed to go to seed. The 10 acres of heavy land were partly in beans and partly in wheat. The stock kept on this farm consists of twenty-seven cows in milk, five or six heifers, nine horses, and three colts."

It cannot fail to strike the most inattentive reader, that the crop of this 120 acres greatly exceeds, perhaps doubles, that of our ordinary farms of the same size, while on many of what are called our dairy farms of about the same size, not more stock is kept than on this grain farm. Manuring and deep tillage has done this for the Brabant farm, and it will do the same for any, or almost any farm on which it is adopted. We are convinced that money expended in converting land into rich old garden ground, is well applied, although for the moment it may seem to be thrown away, particularly on lands, the owners of which are expecting to get to the far west by "year after next at farthest." We add a description of the tillage culture of another farm of some 400 acres, of naturally first rate land, but which, by being treated as described, is so much deteriorated, that the crops rarely more than half equal those on the same number of acres on the one just noticed.

"The rotations on this crop are as follows:—1, fallow; 2, winter barley; 3, beans; 4, barley or wheat; 5, beans, clover, potatoes; 6, wheat; 7, oats. Thirty cart loads of long manure, the straw not much decomposed, are put on the fallows before the last plowing, and the winter barley is sown in October; the produce is eight quarters per acre. Wheat on the same preparation produces from four to five quarters, so that the barley gives the best crop, and with the least exhaustion to the soil; every year a small portion of the pasture is broken up and sowed with colza. The natural fertility of the soil is shown by the succession of crops produced on the newly broken up land, without manure, viz: colza, wheat, beans, barley, beans, wheat, clover, wheat, beans, oats. After this scouring it is no wonder that the land wants rest; and this is given without much care, by merely allowing the natural grasses to spring up without the trouble of sowing the seeds. It takes three years before there is any tolerable pasture; but as it remains nearly twenty years before it is broken up again, the deterioration is not so apparent. Under a regular and judicious course of convertible husbandry, this land might be kept up to the highest state of fertility, and the ultimate profit would be much greater."

This is a picture of the farming so prevalent in this country, and which is fast lessening our products, and ruining our lands. It may fairly be called the exhausting process, as the whole object seems to be to get as much from the earth, and return to it as little as possible. By the first mode of farming, the land improves constantly, growing more productive, and of course more valuable. A farm cultivated in this way, by deep tillage, thorough manuring, and a well conducted rotation, becomes in time, a rich mold to the depth to which the soil is stirred, and the roots of plants having thus ample room for range and pasturage, the crops are invariably good. Thus the extra labor and expense is soon repaid, and a soil is formed far superior to the richest native earths, and which can easily be kept in condition to give the most ample crops.

#### Planting Trees on Clayey Soil.

"MESSRS. EDITORS—Will you be so good as to inform me of the best method of planting out fruit trees on a clayey soil? C. F. C."

A clayey soil is unsuitable for fruit trees, but by draining, deep digging and manuring may be made tolerable. Thorough and deep draining is, however, essential, and without this, all attempts to cultivate fruit on such a soil will prove more or less a failure. On such soils, also, the holes for the reception of the roots must be made broad, and filled with rich surface soil, or such as will be permeable to the roots. The holes should be at least from six to eight feet across, that there may be ample space for the young roots to spread before the poorer soil is encountered. In planting trees, imitate nature, and do not plant too deep, certainly on tenacious soils. The roots of all plants shun stagnant water, with the exception of a small class; and it is particularly fatal to fruit. In some parts of Belgium, where a clay soil prevails, a trench seven or eight feet in width, and two or three feet in depth is made across the field or fruit garden, filled in with permeable richer soil, and in this the rows of trees are planted, the continued trench carrying off the surplus waters.

#### LONDON FARMER'S MAGAZINE.

There are several valuable agricultural periodicals published in Great Britain, such as the *Farmers' Magazine*, *Edinburgh Quarterly Journal of Agriculture*, *British Farmer's Magazine*, and the *Journal of the English Agricultural Society*. Of these, the most important to the farmer, as embracing the practice as well as the theory of agriculture, is the *Farmer's Magazine*. This is published monthly, 80 pages each number, with beautifully executed engravings on steel, of the finest cattle and sheep of the different breeds in England; the winning horses of the principal race courses of that country; and those that are particularly distinguished for their excellence for the farm or the road. The reading matter is made up of communications from the leading agriculturists of the kingdom, with occasional remarks by the editor, Mr. SHAW. Although the difference between the climate of Great Britain and this country is such as to render some variations of crops and culture indispensable, still, in most respects, the agriculture which is best in one case would be advisable in the other, and as the science as well as the practice of farming is much more advanced in that country than in this, the methods practiced there may be studied with the greatest profit here. The advance made there in the breeding and management of farm stock, such as cattle, sheep and swine, in particular, is such that those engaged in the business of improving the same races of animals here, would find the Magazine a most useful guide, in the selection of stock, and in ascertaining the estimation in which the respective breeds are held, where they originated and are best known.

We have had frequent applications from gentlemen in this country, with regard to the practicability of obtaining the Magazine, and other agricultural publications here, which has been hitherto attended with much difficulty and expense; and we have the pleasure of informing such, and others, that we are making arrangements by which such difficulties will, in a great measure, be obviated. Of their completion, we hope to be able to inform the readers of the *Cultivator* at an early period; when we will receive subscriptions to such of these works as may be desired.

#### GERMINATION.

The process of germination, or the first appearance and development of vegetating power in the seed, is one of the most interesting subjects connected with the production of plants. Decandolle mentions as essential to this first step in organization, moisture, heat and light. There can be no question as to the necessity of the presence of the two first, but the last we are inclined to think prejudicial to perfect germination. Loudon says that seeds, to germinate well, should be defended from light, and the experience of every farmer and gardener, is in agreement with this opinion. If moisture and heat are supplied, seeds will, however, germinate in the light, though not as quickly or as vigorously as when light is secluded from them. The presence of the earths is also usually considered essential to germination, but where the other conditions are present without the earths, there is no difficulty in producing plants from seeds. A curious illustration of this fact is found in a custom prevalent in the cathedrals of Mexico and in some of the private dwellings, of sprinkling the seeds of some fine and rich growing vegetation on a matting, or thick cloth made for the purpose, and this is kept moistened with water until the germination is complete. In some cases a beautiful carpet of the richest verdure and smoothness is produced from the fine and scented grasses, and wheat has been sometimes used for the same purpose. But although light is not essential to germination, it is indispensable to the farther growth of the plant. Light favors in them the assimilation of carbonic gas, deepens their verdure, and facilitates the secretion of their volatile and aromatic principles; it is essential to florification, and fructification; and ripe seeds cannot be obtained from plants raised in darkness.

There is no substance, the presence of which appears useful in germination, any farther than they serve to exclude light, and retain, as well as facilitate, the action of heat and moisture. The cress at the present day is very frequently grown in grooves around a pyramid of porous stone, in the top of which is a basin for the reception of water. This apparatus is placed on the table, and the cresses are gathered at pleasure, while as one crop is taken off, the seeds of another are deposited in the grooves. By making this germinating apparatus, or any similar one, part of a galvanic or voltaic circuit, germination and vegetation is brought forward with a rapidity truly astonishing, and demonstrating that this electric or magnetic agent, is the most efficient, if not the only active one in the process.

The germination of seeds is subject in a very great degree to temperature; and the degree required for this purpose varies much, according to the nature and habits of the plant. Thus the seeds of most of the hardy or half hardy plants will germinate at a temperature much lower than is required for the tender and delicate classes. Lettuces, onions, wheat, &c., will germinate at temperatures in which corn, beans, peppers, &c., would certainly rot. It is found by experience that roots may be kept for an indefinite period of time, if secluded from air by being buried in earth, and placed in a position above freezing, yet below the germinating point. Potatoes have been preserved in this way for years, fresh and perfect as when first grown, and no good reason can be given why, if supplied with the necessary moisture, and yet kept below the point at which vegetation can commence, the germinating power may not remain good for ages, and the root preserve its first vigor.



and freshness. The principle of vitality, or life, is active in seeds as well as in plants, and the processes of organization going on, counterbalance the inherent tendencies to decay, when these principles are permitted to act.

The facility with which seeds germinate is in a great measure depending on their age, when preserved as seeds usually are, exposed to atmospheric changes, and the action of causes that always more or less influence their vitality, or their substance. This fact should always be remembered in making choice of seeds, as in most cases the fresher they are, the better, and some are wholly worthless after being kept beyond a certain term. Bridgman, in his Gardener, remarks on this subject, that parsnip, rhubarb, and other light scale-like seeds cannot be safely trusted after they are a year old; that peas, beans, carrot, onion, and small herb seeds generally may be used after two years; that spinach, mustard, parsley, lettuce, asparagus, may be preserved three years; that the seeds of the radish, turnep, cauliflower, cabbage and celery, will keep four years; and that the cucumber, melon, squash, beet, and burnet seed, will sometimes grow freely when five and even seven years old.

The fact that when properly preserved, seeds will retain the power of germination for great periods of time is singularly illustrated in the growth of plants from seeds found in the materials employed in the embalming process of the mummies of Thebes, and in those discovered in the burying places of the ancient Peruvians. Of those found in the first instance, a species of wheat, and also one of the raspberry, resembling well known varieties, have been produced from such seeds; and in the latter, of the maize or Indian corn no found, healthy and vigorous plants of corn have been grown. The first seeds were of the date of the Pharaohs, or more than 3,000 years old; the latter, or corn, were placed where they were found before the conquest of Peru by Cortes and his followers.

The action exerted by the radicle or root, and the plumule, or leaf, of a seed during the germinating process, is one of the most singular parts of the vegetative powers of seeds. John Hunter placed a number of seeds in a vessel so contrived that during growth it might be made to revolve very slowly; the result was that in the effort to grow downward during the revolution, the roots formed themselves into a circle within the earth of the vessel, while the top, in its efforts to an erect growth, performed a circle on the outside of the vessel, but of course in an opposite direction. Poiteau inferred from these and similar facts, that a polarization of each seed took place during the germinating process, the result of which was an electro-magnetic current, followed in one direction by the atoms of matter that go to constitute the radicle, and in the other by those that form the stem and leaf of the plant. So strong is this downward tendency of the radicle, that some seeds placed in water, or kept moistened on the top of mercury, forced their radicles into this substance, one so unsuitable for the ordinary purposes of vegetation.

The germination of seeds is greatly influenced by the depth at which they are placed in the earth, and the fineness of the soil placed around them. The earths serve to retain the moisture required to cause vegetation; and if the more modern theory of the primary agent in all growth, from the first incipient germination to the ripened seed, is true, they also act the same part that the plates of the voltaic battery perform in producing the currents and the polarization of the atoms, the arrangement and accumulation of which constitute growth. To produce the desired effect, the earths must be fine, abounding in animal and vegetable matter, and brought by pressure in immediate contact with the seeds. Many seeds are injured, and the germination of some wholly prevented, by being covered too deep, or planted in earth containing too much moisture. It is rare the earth is too dry for the germination of seeds, when the temperature is right; but the dilution of their food by excessive moisture is fatal.

#### DISEASE IN COWS.

A correspondent at Oberlin, Ohio, says—

"I wish to make an inquiry concerning cows when they first come in, or calve. Our cows often sicken and die, in spite of medicines, and we are at a loss in accounting for the cause. \* \* I had a cow not long ago, which appeared to be doing well before she calved; was soon afterwards in great pain, and seemed to be weak, and soon began to stagger as she walked; soon after, she sunk down and was unable to get up. Medicine did no good, and in eighteen hours she died. It seemed to be a plain case of fever, and is but a sample of many instances that have occurred in this region."

Our correspondent is right in regard to his supposition; such cases belong to what veterinary surgeons call "Dropping after calving," or puerperal or milk fever. It is more apt to occur to cows that are fat or in good condition; and particularly such as come in late in the season. It has been remarked that cows attacked in the winter, often recover, than those that are sick in the summer, in equal condition. The disease is inflammatory, and if taken in season and treated as such, it is generally subdued without difficulty. The animal must be bled, and the quantity must depend on the impression produced on the circulation. From six to ten quarts is usually sufficient. The bowels must be opened with epsom salts; and a failure in this respect will indicate a fatal result. From one pound to one and a half of salts, according to the size of the beast, with aromatic ingredients, such as ginger, &c. is usually sufficient; and half the dose every six hours after, with a further supply of aromatics, until the desired effect is produced. The directions of Mr. Bainbridge, veterinarian, in the British work on "Cattle," are as follows:

"The months of February and March, have always af-

fected me more or less cases of dropping after calving. I immediately bleed to the amount of two gallons, and sometimes more, and give a draft composed of epsom salts 1 lb., spirits of nitre 1-2 oz., and linseed oil 1 lb., in plenty of thin gruel. I also order from four to six ounces of salts to be given in gruel every six hours afterwards, some ginger being always boiled with the gruel. If the animal is not relieved in 24 hours, and her state permits it, I bleed again, and repeat the salts, oil, &c. Out of six cases in the last two months, five perfectly recovered."

The puerperal fever among animals, as among the human race, sometimes appears as an epidemic, and is attended with disastrous consequences. It is in all cases a disease to be dreaded, and few diseases require more prompt and energetic treatment. As it usually occurs to cows within a few days after calving, they should be frequently noticed, and if the symptoms that precede the disease, such as restlessness, lowing, nose dry and hot, tongue frequently protruded, eyes wild and staring, and the udder swelled, inflamed, and the secretion of milk suspended, there is reason for apprehension, and if weakness or staggering occurs in the least, the case may be considered clear, and treated accordingly.

#### Late Sown Wheat—Information Wanted.

The opinion, it appears, from the English and Scotch agricultural works, is becoming general in Great Britain, that the later wheat can there be sown, the better. The practice has been partly forced upon them, or rendered necessary by the sowing of wheat after turneps, and experience shows that the system possesses several advantages. An eminent agriculturist states, that since he has adopted the practice of late sowing, he has never lost a crop from the fly, or what is of still more consequence, from freezing out, or winter killing. What would be the result of such a course of sowing here? Wheat sown so late in the fall that vegetation does not take place to any extent before freezing, could not be destroyed in the spring by the lifting of the roots that ensues from the spring freezing of heavy lands, and although later in ripening than wheat sown early in autumn, it would doubtless come to maturity as early as spring wheat. There are large sections of our country where the danger or liability to freeze out, constitutes the most serious obstacle to the culture of wheat; and as spring wheat may be said to succeed well on such sections, a very important point would be gained, if by fall sowing as late as possible to get wheat into the ground, winter wheat, which is a more valuable crop, could be raised. We wish to obtain information on this point; and any farmer who has made experiments in late fall or winter sowing, and will communicate to us the result, with the time of sowing, kind of soil, &c., will very much oblige us, and perhaps confer on the public a benefit and a favor.

#### Disease among Horned Cattle.

For several years past an epidemic of a singular nature has prevailed to a greater or less extent on the continent of Europe, and has been gradually progressing westward; until at the present time its ravages are most extensive and alarming in England. Whether it will cross the Atlantic remains to be seen; but the experience we have had in other epidemics, both in man and brute, would seem to indicate that we shall not be exempt. It seems to be as true of diseases as of empire, that westward they "bend their way;" witness the cholera, which from the jungle at the mouth of the Ganges, has spread westwardly till it has made the circuit of the globe.

Mr. Hill, veterinary surgeon, who has charge of Mr. Rhodes' London Dairy of about 700 cows, has given, in the Veterinarian, some account of the disease as it appeared among those animals. In the first attack—

"The membrane of the whole of the mouth was in a state of inflammation and vesication. The tongue was involved, but the most extensive and annoying vesication was between the under lip and the gums. In some cases it extended over the whole muzzle to the nostrils. In the worst cases, the membrane of the tongue completely peeled off. Some of the animals suffered so much, that they became furious."

In the progress of the epidemic, the feet were attacked in a manner much like that of the hoof ail, at times so prevalent in some parts of this country. Mr. Hill says:—

"The grievance now lay in the foot, and particularly in the cartilage-ligamentous substance that forms the heel. An enlargement appeared in that division of the foot, and at the separation between the heels; it was hot and tender; a vesicle followed filled with serum, and if not lanced it burst, and a serous fluid exuded. The after state of the case, and the other treatment depended on the opening of this vesicle; if the vesicle was opened in time, one dressing with the caustic, that will presently be named, was sufficient; but if that had been neglected, the fluid insinuated itself between the hoof and sensible lamina, and burst out at other parts of the coronet, or the hoof dropped off." \* \* \* "The dressing which was most useful,—which in fact never failed ultimately, and applied in time, arrested the disease at once,—consisted of equal parts of muriatic acid and tincture of myrrh, applied by means of a brush or feather, the animal being kept in a dry yard or stable, and the foot kept from accidental moisture by a piece of cloth secured by strips of list."

Out of more than 500 attacked, not an animal was lost; and what still more likens the disease to our hoof ail, out of the whole number, six only had the disease in the fore feet. Mr. Hill remarks, that the commencement of the disease is hardly to be mistaken; the pain the animal suffers is manifested by holding up and shaking the foot attacked. The digestive organs did not appear to be affected, and the appetite remained good in most cases. Where the aid was not prompt, the hoofs and feet bones came off and the animals perished miserably. In many of the cows

garget showed itself in the udders, accompanied with swelling, inflammation, and a great reduction in the quantity of the milk. The last Nos. of the Farmer's Magazine announce the spread of the epidemic, over nearly the whole kingdom.

#### The Horse—"Spirit of the Times."

We thank our friend of the Times for his suggestions, and will endeavor to profit by them. They are in accordance with our opinions and our intentions. The improvement of the Horse is an object of interest to all, particularly for the farm or the road; and we are glad to perceive in various quarters, proof that the importance of substituting better blooded, and of course better animals, for the miserable caricatures of horses that disgrace too many of our farms and roads, is beginning to be understood and acted upon. In the mean time we advise all who are engaged in efforts to improve this noble animal, as well as the lovers of field sports, to subscribe at once for the "Spirit of the Times," and the "American Turf Register." As a "Chronicle of the Turf, Field Sports, Literature, and the Stage," the "Spirit" is without a rival in the United States or elsewhere. The Editor, W. T. PORTER, Esq., is an indefatigable caterer in the fields of literature and the drama, and the ample pages of his extended sheet, enable him to gratify the taste of his readers in this respect abundantly. For fineness of paper, beauty of mechanical execution, general arrangement, and expensive embellishments, the Spirit is unequalled by any publication in this country. The large and splendid steel engravings which occasionally accompany it, are worth the subscription price. It is issued weekly, 12 large pages, quarto, at No. 1 Barclay-street, New-York, at \$10 a year.

The American Turf Register and Sporting Magazine, so long published by the able editor of the American Farmer, Baltimore, J. S. Skinner, Esq., is now issued from the office of the Spirit of the Times, by Mr. Porter. It is published monthly, 64 pages octavo, each number embellished with one or more elegant steel engravings, at \$5 per annum.

#### Implements for Analysing Soils.

"A Subscriber," who has asked "where the implements required for the purpose of analysing the soil can be found?" is informed that such as are necessary for ordinary analysis, or determining the quantity of the several earths and vegetable matter existing, may be found almost anywhere, comprising only a crucible, scales, acids, glasses for washing and separation, &c. If a perfectly accurate analysis is required, the chemist's laboratory and the chemist's knowledge will be requisite. Every farmer might easily analyse his soils, and should be provided with the means of so doing. Such a course of experiments would be useful in the cultivation of the soil, and a source of pleasure to the operator. See "Analysis," page 25.

#### SPECIMENS OF SILK.

The specimens of colored and white sewing silk, sent us by Mr. WM. PRINE, of Stillwater, made from the white mulberry, show, as have multitudes of other experiments, that there is no mystery about silk making, and nothing to prevent our farmers from growing it. The time we trust is not far distant, when the cultivation of silk will become a part of the rural economy of every good farmer. The inquiries of Mr. P. shall be attended to in due time.

We have also a beautiful specimen of silk from the coconery of R. S. HARDWICK, Esq. of Sparta, Ga. Mr. H. says—"This is our first effort. Our first crop, say 120,000, has all wound up—our second crop of about 500,000, is now half advanced, and we expect to raise a third crop. We have succeeded so far with our worms admirably well. All that we lack, is the necessary machinery to prepare the silk for market, to make the business profitable."

#### Transplanting Evergreens.

"A Young Farmer" is informed that evergreens may be transplanted with safety at any time when "the plant is in a state of actual growth." The last of May and the middle of September are probably the best times. Judge Buel was successful in transplanting pines in July. The plants should be taken up with as much earth attached to the roots as possible.

#### GREAT CALVES.

We have collected from various sources the following notices, which, more conclusively than any thing else, will show the size of the Short Horns. This great size of the progeny, however, renders the crossing with the "scrubs" or common breed of cows, somewhat dangerous; as in a single neighborhood we have known two instances in which cows crossed with a Durham, died during parturition.

GOOD.—Mr. G. V. Sacket of Seneca-Falls, is the owner of a Durham calf, which when four hours old, was carefully weighed by a number of gentlemen, and found to weigh 110 pounds.

VERY GOOD.—Mr. B. Simmons, of Madison, has a calf which weighed when two days old 122 pounds.

STILL BETTER.—(We do not say the best, because we might be obliged to recall it.) Dr. J. Miller, of Truxton, has a calf of the Short Horn Durham, which, when one day old, weighed 132½ pounds, and on the second day 136 pounds.

YEARLING DURHAM BULL.—Mr. George Geddes, of Camillus, has a Short Horn bull, which in April last, at the age of one year, weighed 900 pounds.



# DICTIONARY OF TERMS USED IN

## Agriculture and its Kindred Sciences.

**CALVES.** The young of the cow, *Bos* of Lin. The value of the future ox or cow is greatly depending on the treatment the calf receives; and hence much attention has been paid to the rearing of the young animal, in districts where the breeding of cattle forms an important object to the farmer. Where circumstances will permit, allowing the calf to run with the cow and draw his food directly from her, is probably the best method, since it is that of nature; but as the milk for dairy purposes is valuable, breeders have substituted many modes of feeding the calf, in which milk is partly dispensed with, some other nutritive substance taking its place. As a general rule, the calf should be allowed to suck the cow till the milk is good. Some allow them to suck a week or fortnight, according to their strength; but we have found that where calves were to be taken off, the earlier it was done, the better for both cow and calf it was, both making less ado at the separation. According to Marshall, a celebrated English breeder, the best method after the calf is taken from the cow is this:—"new milk in the pail a few meals; next, new milk and skim milk mixed, a few meals more; then, skim milk alone, or porridge made of milk, water, oatmeal, and sometimes oil cake, till cheese making commences; after which, whey porridge, or sweet whey in the field." When fed from the pail, calves require about two gallons daily; but care must be taken not to give it them too cold, as it will cause the calf to purge. When this is the case, one or two spoonfuls of rennet in the milk will be a good remedy. Great regularity should be used in feeding calves; and they should always have sweet grass, or good clover hay to nibble upon in the intervals of feeding with milk. Calves should always be housed in the winter, have good hay, water, and occasionally salt. They are easily taught to eat carrots or turneps, and we never knew a lot of calves that had each a good "nubbin" of corn daily from the hand of the master, and plenty of good hay, that did not go through the first winter well.

**CAMBium.** When the sap from the roots of trees has ascended to the branches, and undergone that peculiar elaboration which fits it for the formation of the various parts of the plant, fruit, wood, bark, &c., it descends towards the roots, depositing in its progress the materials destined to the several parts. Of these, the principal is the substance of the future albumen and liber. These materials are first deposited in the form of a layer of glutinous or gummy substance, termed the *Cambium*; which appears to consist of the solid portion of the sap, deprived of the greater part of the water. This becomes more and more consolidated, and becomes an integral part of the plant, constituting two layers; the first, the outer circle of wood, called the albumen; and the other, the inner layer of the bark, being the liber.

**CARBON.** The base of coal. It is found pure only in the diamond. Though this fact was suspected by Newton, it was not established till Lavoisier effected the combustion of the diamond enclosed in iron. As the diamond disappeared, and the iron was converted into steel, (a well known result of the combination of carbon and iron,) the inference was clear that the precious stone was pure carbon, and further experiments have demonstrated its truth. Carbon forms the base of all wood, and consequently of all trees and plants; and is, therefore, one of the most important principles in nature. Plants, however, never take up the minutest quantity of carbon while in that state, however fine it may be reduced. By a wise provision of Providence, an inexhaustible reservoir of carbonic gas (carbon converted into air) is found in the atmosphere, which readily combines with water, and in that state is taken up by the roots for the support of the plant. The leaves of trees also perform a species of respiration by which carbonic gas is taken into the plant during one-half of the day, to be decomposed by the solar rays, and while the carbon is retained. The oxygen is set free and thrown off by the plant to renovate and purify the air. Carbonic gas is composed of 27.4 parts of carbon, and 72.6 parts of oxygen. Carbonic gas is fatal to animal life, and to this gas, the deleterious effects of the Grotto del Cano, the Valley of the Upas, the craters of volcanoes in some cases, what is called the choke damp in mines and wells, &c., are owing. No part of a plant has the power of decomposing this gas, except those that are green; hence plants prematurely stripped of their leaves, are at once deprived of their greatest means of procuring carbon, and must suffer accordingly.

**CARROT.** (*Daucus carota*.) Few plants exhibit the improving effects of cultivation more strongly than the carrot. In its native state, it is small, dry, fibrous, white and strong flavored; as cultivated, it becomes large, succulent, and rich in color and nutritive properties. Carrots contain about ten per cent of nutritive matter, of which nine is sugar and the remainder starch. Many attempts have been made to make sugar from carrots, but they have failed; while by distillation large quantities of spirits are produced. Twenty tons have yielded 240 gallons. Carrots require a rich deep soil, and on any others their growth should not be attempted. They succeed best in rows, eighteen inches apart, and eight inches in the rows. In a shallow soil, or one rich only on the surface, the roots will be scragged, and of an inferior quality. Five hundred bushels may be considered the average yield per acre on a good soil, though instances have occurred of yields of eleven or twelve hundred bushels on that quantity of ground. Few roots are of equal value to the carrot for feeding animals. Almost all are fond of them, and their excellence cannot be disputed. They make the finest co-

lored and best flavored butter or beef; horses thrive rapidly on them, and hogs can be fattened on them with ease. The carrot crop is not quite as certain a one as the potato or turnep crop, is rather more difficult in the choice of soils, and more care and labor in the production is required; but still it is one of great value, and where circumstances do not forbid, should always find a place among the roots grown, and rotation adopted by the farmer.

**CART.** Fifty years since, the use of the wagon for farming purposes was almost unknown. The reliance was on the cart and oxen, instead of the wagon and horses. As the latter increased, the former gave way; and now, the use of the cart is mostly confined to farms on which cattle alone are used, and to some particular sections of country. It is a question, however, which deserves serious consideration by farmers, whether more has not on the whole been lost, than has been gained by the change. On grain growing farms, where much plowing is to be performed, horses are indispensable, and the wagon of course may well be preferred; but there are tens of thousands of small farmers in our country, that, we think, would greatly consult their convenience and profit, by discarding their wagon and its attendant span or two of lean horses, and substituting in their place, for labor, the old fashioned and less costly cart, and a yoke or two of clean built, light traveling Devons, or other good working cattle.

**CATARRH.** A disease of horses known under the names of influenza, cold, horse distemper, &c., and is one of the most common and disagreeable to which this useful animal is subject. It is not usually fatal, or long continued, unless the animal is injudiciously treated, improperly worked while under the influence of the disease, or dosed with injurious remedies. It makes its attack usually in the spring or fall, commencing with fever, followed by discharges of matter from the nose, swelling of the glands of the throat, difficulty of eating or drinking, and of course much emaciation and weakness. Bleeding is admissible only during the fever stage; setons in the glands, or blisters when much swelled; promoting discharges from the nose, and keeping the bowels open, have been found the most effectual methods of arresting the disease. The distemper is clearly contagious, and infected animals should be kept from those that are sound as far as practicable.

**CASTRATION.** The emasculation of animals, such as calves, pigs, lambs, &c., should be performed as early as the strength of the animal, and other circumstances, will admit. Usually, the only care necessary is to prevent exposure to the cold. Where this is not attended to, serious consequences may result; and we have known flocks of lambs decimated by exposure to a cold rain, immediately after this operation.

**CATTLE.** A general name comprehending all the animals in the genus *Bos* of Linnaeus. There are of course a number of species, such as *Bos taurus*, the common ox; *Bos cafer*, the wild ox of Africa; *Bos urus*, the wild bull of Asia; *Bos americana*, the buffalo or bison of the Missouri; and the true buffalo of India, and the musk ox of the Arctic regions. Much labor has been expended in tracing the origin of our domestic races of cattle to the Urus, but we think with little success. At the earliest mention made in history of the ox, he was, like the sheep, a domesticated animal, and such he probably descended from the ark upon the plains of Mesopotamia. Domestic cattle become wild with readiness, as the immense herds that roam the pampas of South America at the present time fully prove. Very great improvements have been made in the European breeds of cattle within a few years, principally in England, and that by a few spirited individuals, of whom Bakewell, Collings and Berry, rank among the first. Within fifty years, the average weight of English cattle, as determined at the Smithfield market, has risen one-third; and present appearances do not indicate that this increase has reached its maximum. The great improvements already effected, have been made by judicious crosses, and breeding with reference to certain desirable qualities of form, size, milk, aptitude to fatten, &c., and these objects have been attained in some of the best modern breeds of cattle to an extent that would once have been deemed impossible. It is evident that care must be taken, or there will exist a tendency to retrograde to the original standard; a tendency which will become less and less, as the type and constitution of the improved breeds recede farther from the point of their origin, and of course become more fixed and stable. The breeds of cattle at present most in repute, and beyond all competition in any other varieties, are the Short Horns, the Herefords, and the Devons. Indeed, it is scarcely possible to conceive of more perfect models of form and beauty among animals, than are to be found among these three kinds of cattle, particularly the high bred varieties of the first named. Great pains have within a few years been taken to introduce into the United States the very best breeds of Europe, and finer herds of cattle are no where to be found than now exist in Kentucky and Ohio, which states have taken the lead in this laudable enterprise. As to the general treatment of cattle, our plan does not embrace it, any further than to remark, that cattle require kind treatment, plenty of good food at all times, and protection from the severity of our winters. On these things, next to skilful breeding, the excellence of cattle is mainly depending.

**CELLAR.** An important appendage to every dwelling is the cellar, and great care should be taken to have this so arranged that the full benefit desired from it may be obtained. The cellar should be well walled with stone or brick, laid in cement; if inclining to be wet, it should be drained so as to present a hard, smooth surface earth, and this will be better if covered with clean gravel. Cellars should

wholly exclude frost without being too warm, as fruit and vegetables kept in a warm cellar will not be as good as in one of an equally dry but lower temperature. Since the commencement of the cultivation of roots in this country to a considerable extent, and especially since the making of pork from steamed apples and potatoes has succeeded so well, cellars attached to barns or piggeries have become necessary, and are already constructed in many cases. Cellars of this kind for the reception of roots, should be made so that cart or wagon loads of fruit or roots can be thrown into them at once, without the labor of repeated handling.

**CHALK.** Compact limestone, or carbonate of lime, passes into chalk, when the particles that compose the mass are so loosely connected as to render it friable or capable of easy division; in its essential qualities it does not differ materially from unburnt lime. Chalk is extensively used instead of lime for agricultural purposes in many parts of England where it abounds. In the United States there is no chalk, properly so called. The immense beds of white marl, found in some parts of Western New York, are a near approach to it, and the value of such beds as a resource for easy liming soils, will be better appreciated hereafter than it now seems to be.

**CHAFF-CUTTER.** In European works on agriculture, straw or hay when cut fine for cattle or horses, and the practice is extensively followed, is called chaff, and the implements by which the cutting is effected is termed a chaff-cutter. In this country, the same implement would be a "straw-cutter," which see.

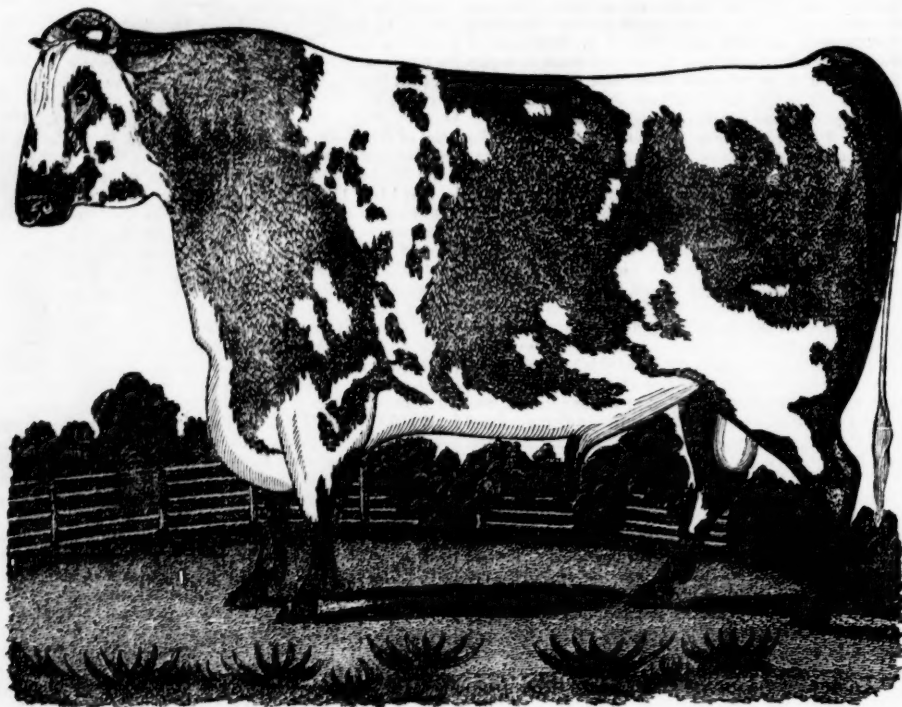
**CHARCOAL.** The woody part of trees or vegetables, when burned without flame, becomes a black substance, which has received this name. The base of this substance is carbon, which is formed from the decomposition of carbonic gas by the roots or leaves of the plant. To produce charcoal, the wood is usually burned in pits, or the wood is first closely piled, and then covered with earth, which causes the wood, when the fire is applied, to burn slowly, and expel the water and oils of the plant, without flame, which, if suffered, would reduce the pile to ashes. Charcoal is invaluable in the arts, and is of essential service to the cause of agriculture. It is found that a bed of finely powdered charcoal will ripen melons, &c., if they are placed upon it, when it would otherwise be impossible to bring them to maturity. This property is owing to its rapid absorption of heat from the sun, and the facility with which it parts with it to such substances as are in contact with it.

**CHEESE.** When the cream has been separated from milk, there remain two of the principles of which it is composed, the caseous and the watery parts. It is from the first of these that curd is produced, and when the watery part or whey is separated from this, and the curd is properly prepared and formed, it constitutes cheese. Heating, or the addition of acids of any kind, will convert milk into curd, but the substance used in the dairy, and which is preferred to all others, is a decoction of the stomach of the calf, called rennet. This stomach is prepared by drying with spices and aromatic herbs, and when wanted, is steeped in water or whey, until sufficiently strong to coagulate the milk with readiness. Great care is necessary in preparing and preserving the rennet, as on the quality of this, its sweetness, purity and flavor, much of the goodness of the cheese is depending. There are many varieties of cheese, some of which have obtained a great celebrity, such as the Parmesan, Stilton, Gloucester, Cheshire, &c., in Europe, and the Goshen, Orange, &c., in the United States. The different qualities of the several kinds of cheese is depending on the milk, and the different processes adopted in making the cheese, and fitting it for the market. The best cheeses always retain the cream in the curd; those made from milk deprived of the cream, are called skim milk cheese. This kind is of course less rich than the other, but may be kept longer. Cheeses made of goat's milk are richer than those made of cow's milk, but it is with difficulty they are kept for any time. They are, therefore, made small, and eaten as soon as they have attained perfection. The celebrated French cheese called Rochefort cheese, is made of a mixture of goat's milk and cow's milk, and its peculiar excellence is supposed, in part, to be owing to the temperature of the rooms in which it is prepared, which being excavated in rock, are always of the temperature of 36° to 40°. Formerly those dairies that made the rich or cream cheeses, such as the double Gloucester, Stilton, &c., were obliged to make them small, and the dairies of this country that imitated such cheese were compelled to do the same, as their rich and tender mass would fall to pieces of itself if made of large sizes. Now the richest cream, or double cheeses, are made without difficulty, and of any desirable size, as the curd is pressed and kept in bandages made of thin cotton until ripened and used. The dairy business, when well conducted, is a source of great profit, and the American dairies in some parts of the states are exceeded by few in the world for the quantity and quality of their products; a decided improvement having taken place within a few years.

## LARGE YEARLING.

Mr. Winant Youngmans, of Sand Lake, Rensselaer co., informs us, that agreeably to the request of Mr. Johnston, (see current volume, page 20,) he had his improved Durham bull calf weighed on the day that he was one year old, by Mr. F. Myers. His weight was 1,026 pounds. It is believed by those who have seen this calf, that it can scarcely be equaled or surpassed by few for size and beauty. Mr. Y. requests Mr. Johnston to comply with his promise to furnish us with the weight of his calf, at one year old.





SHORT HORN BULL PRESIDENT—[Fig. 62.]

Owned by Messrs. Gaylord & Fuller, Skaneateles, Onondaga county, N. Y.

The Bull President, a good engraving of which is given above, is a pure Durham, from the celebrated herd of the late Gen. Van Rensselaer, of this city, and is owned by Messrs. Gaylord & Fuller, of Skaneateles, Onondaga county. His stock is highly spoken of, and he will doubtless effectually contribute to still further improve the cattle of that district. We are always pleased to give figures of fine American animals, as such representations, if faithfully executed, give more correct ideas respecting such stock than the best descriptions without them can do. We consider the great questions as to which of the foreign breeds is the best adapted to this country; or whether the different sections may not require different breeds, as open to discussion, and as they are of the greatest consequence to the public, we shall be happy to be able, through our columns, to throw light on the subject. We allude here particularly to the Short Horns, Devons and Herefords, as those to which the attention of the public is at this time directed.

#### GEOLOGICAL SURVEY OF NEW-YORK.

The report of this survey for the year 1839, being the fourth annual report, is now before us, and is a most valuable document, embracing some 480 pages, and including reports from all the gentlemen engaged in the survey. The reports from Dr. De Kay on the Zoology and Entomology, and of Dr. Torrey on the Botany, are very full and ample; as is also that of Mr. Conrad on the Paleontology or fossils of the state; and must be considered as valuable contributions to science, as well as necessary illustrations of the natural history of New-York.

When it is remembered that the grand object of the survey, as undertaken by the state, was the development of its agricultural and mineral resources; the making the mass familiar with topics now little understood or prized by them; the placing the history of the plants and insects of most consequence to the cultivator of the soil, whether for their beneficial or destructive properties, in the hands of all; and the necessity of paying particular attention to every object of practical interest is realized, it is pleasant to observe the direct tendency of these reports to the fulfilment of these intentions.

To render the investigations now going on beneficial in their fullest extent to all classes, it is desirable and necessary that figures and descriptions of all the most important insects and plants should be given; their changes and habits described, and all that can interest the public, divested as far as possible of its purely scientific aspect, and clothed in a dress and language familiar to all. In all cases where a plant or an insect has a popular or vulgar name, it should by all means be given as well as the scientific one, that the farmer may recognize his friends as well as his enemies. The cry which is made by some against the use of terms which constitute the language of science every where, is most ridiculous; but this labor and expense has not been undertaken for the use of the scientific alone, and in making out the final reports, this fact must not be overlooked.

Already have the annual reports embodied a vast amount of economical geology; but as was to be expected, the full illustration of the several topics embraced in the survey, and their adaptation to practical purposes, has been deferred to the final reports. For these the public will look with much interest, and with every reasonable prospect of not being disappointed. The practical skill, scientific investigation, and patient research which have been brought to this great work, afford the surest guarantee for its honorable and useful accomplishment; and of such a result, the series of annual reports may be considered as a satisfactory pledge.

We had prepared an extended notice of the report for this year, embracing a synopsis of the labors of each of the gentlemen engaged; but have deemed it

proper, from the mass of interesting agricultural matter on hand, to defer its insertion. We do this with the less reluctance, as we have in a late number alluded to the subject somewhat at length; and shall doubtless hereafter have occasion to avail ourselves of the important discoveries and facts detailed in these reports.

#### Annual Report of the Regents of the University.

We have just received this report for 1839, and examined its pages and statements with a care proportioned to the interest we feel in the great cause of education, of the state of which in New-York, this report, and that of the Superintendent of Common Schools, may be considered as an official exhibition.

Reports were received from 109 academies, and their present condition, number of students, &c. may be seen from the recapitulation given below for the last six years.

Year of reports.	No. of academies reporting.	No. of scholars reported.	Public money distributed.	Average rate per scholar.
1835	64	5,296	\$12,000	\$3 21
1836	65	5,548	12,000	2 98
1837	69	6,056	12,000	2 63
1838	74	6,391	12,000	2 35
1839	106	10,111	40,000	5 66
1840	109	10,881	40,000	4 52

There are in the 1st district 2 academies; in the 2d district 17 academies; in the 3d district 15 academies; in the 4th district 23 academies; in the 5th district 17 academies; in the 6th district 8 academies; in the 7th district 16 academies; and in the 8th district 18 academies, that have reported to the Regents the past year, and there are several subject to visitation that have not reported.

It appears from the above table, that during the past six years the academies have increased in number from 64 to 109; and students reported, from 5,296, to 10,881; while the sum distributed has risen from \$12,000 to \$40,000.

To the general or the scientific reader, the abstract of the meteorological returns from the several academies, with the valuable papers furnished by Mr. W. C. Redfield, on the monthly mean height of the barometer for the past year, and the average mean for the last seven years; and by Mr. Coffin, on the prevailing directions of winds in this state, will prove the most interesting part of the report. The returns in general appear to be made with a considerable degree of accuracy, and the further introduction of approved instruments will annually tend to ensure such a result. By such annual reports, a vast amount of information will be collected, always available in attempts to ex-

plain some of the most important phenomena of the universe.

New-York, with a liberality most honorable to the enlightened policy of the statesmen that devised the system, has laid the foundation of the universal education of her citizens, broad and deep; and the carrying out of the principles involved, and the proper management of the vast interests concerned, constitute one of the most important subjects of state legislation, or philosophic or philanthropic inquiry. That all men should be educated, is a proposition that seems to meet with universal assent: the best manner of effecting this result, may be considered a question open for discussion.

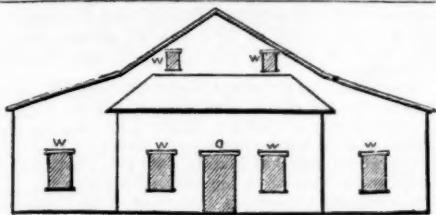
Our system of state education recognizes three classes of schools; primary or district schools, academies, and colleges; and these are intended to embrace all that is required to qualify a man for any situation or business of life. The gradation appears a very good one, and no serious practical evils seem yet to have resulted from the working of the system; still we question whether essential modifications will not be hereafter required to meet the just hopes and expectations of the community on the subject. We think the primary or the district schools should be the grand point of interest with those who have the care of education in this state; and every movement or tendency which looks to the elevation of other departments at the expense of this, should be looked upon with distrust. It may well be questioned, whether the too great multiplication of academies, or what is in courtesy called select schools, may not have a tendency to produce undue distinctions, and a state of things not contemplated by the founders of our school system. One of the most unequivocal benefits of our academies, is the opportunity they offer to young men and women for qualifying themselves as teachers of district schools, a privilege extensively embraced, as is evident from the several reports of trustees of these institutions, included in the above report. So far the influence they exert is good; but if, by their multiplication, they are to be brought in direct contact and contrast with the district schools; if, in the academy, the children of the wealthy and respectable are to be educated, while the less fortunate are to be content with such instruction as the district school can give; if the feeling is to become general that it is more respectable to go to school at the academy or select school than at home, (and children readily embrace such notions;) and if the influence which should elevate the district school is to be withdrawn, and concentrated in the higher schools, the result would be most disastrous to the hopes of the real friends of education. That there is such a tendency at the present time is obvious, and it must be counteracted in time, not by depressing the standard of learning in the academies, but by elevating that of the district school; by checking in the bud that aristocratic feeling which leads the child or youth whose school is the academy, to look with contempt on the one who remains where both should have done, in the district school.

It was doubtless the intention of the projectors of our school system, that in the district school should be taught every branch of learning necessary to the active business of life; that the academy should be considered as a preparatory step to the college, or a place where those intending to teach, could be qualified for the occupation; and that in the colleges, that education was to be found, more strictly belonging to the class named in courtesy, professional men. We do not regret that good advantages are enjoyed in our academies; we would only insist, that as far as possible, the same should be had in the district school; we would not depress or destroy the academies of our state, but we would have the district schools so organized and the course of studies so complete, that academies, as such, would no longer be necessary; we would not pull down the few, but we would elevate the many, and take effectual measures to check tendencies to castes and distinctions incompatible with the nature of our social and political institutions.

After all, perhaps the most serious defect in our system is the one that allows of no provision, or takes any measures for teaching a science that lies at the base of state and national prosperity, and has and will continue to have more influence on the public happiness and welfare than all other sciences and arts united—the Science of Agriculture. There is not in the rich and powerful state of New-York, a single institution where the principles of agriculture are systematically taught, or where the practice can be illustrated or exhibited. The state has made ample provision for every branch of learning; from the spelling book of the beginner to the languages of Greece or Rome; from the simplest and most important principles of knowledge, to the most abstract, and what some are pleased to call useless; with the single exception of that one which relates to the earliest, and by far the most important, of the avocations of the human race. The cultivator of the soil has been left to instruct himself as he may; and while the farmer's son is invited and urged to the pursuit of sciences useless to him, and the acquisition of knowledge which is of doubtful utility, that which interests him the most, and most nearly concerns his usefulness, is to him a sealed book. While years are required to master subjects embracing much less extensive fields than agriculture, he is expected to understand this science by intuition, and become a successful farmer by instinct. Unless we have wholly misapprehended the bearings and importance of this matter, there is here a defect in our system that requires removal; and to this conclusion we believe every unprejudiced mind in the country will at last arrive.

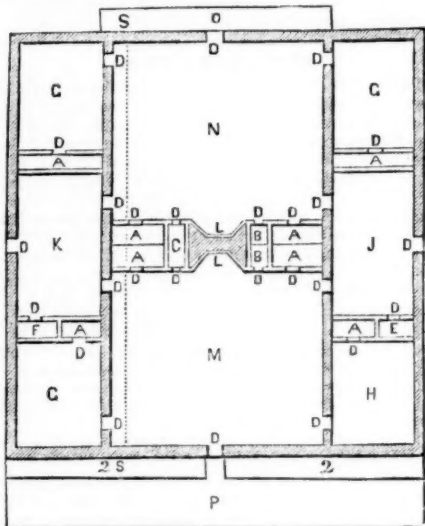


## Communications.



PLAN OF A COTTAGE.—[Fig. 63.]

Messrs. GAYLORD & TUCKER—As old Neptune and myself have long since fell out, I have concluded that I would let the old shark shift for himself, and that I would not plow the briny deep for him any more, nor yet go aloft to reef and furl top-sails in the cold winter nights, when I could lie safely moored in a good warm built house, on terra firma. Excuse me for my sentimentality, which is so much the characteristic of old salts, whether on sea or on shore. I lay before you the plan of a farm cottage, which, were I able, I would knock together with all possible despatch, and show the farmers of old Onondaga that there is no use of shivering and shaking in cold winter nights like a ship three sheets in the wind, when there is so much spare timber in the land, and so many noble fellows to splice it together, but for fear I should stern-all a little too fast, I will make a short splice of it, while I am about the business. So, gentlemen, if you think the enclosed worthy of a place in your Cultivator, you are welcome to it, and accept of it as coming from an old sailor and a young farmer. You will please excuse the draught, as I am no architect. The front view (fig. 63.) is the outline of the most convenient cottage on the banks of Lake Skaneateles, but as I have drawn it, it is not in proportion, as the roof is too peaked. Were I able to build, it should be a frame house on this plan, filled in with brick. The lower floor of the house to be six or eight feet above ground; a wood-house in the rear, ten or twelve feet from the cottage, with plates let into the plates of the wood-house and into the sills of the cottage, which, when floored over, would constitute a back stoop.



Plan of the lower floor of farm-house, (fig. 64.)

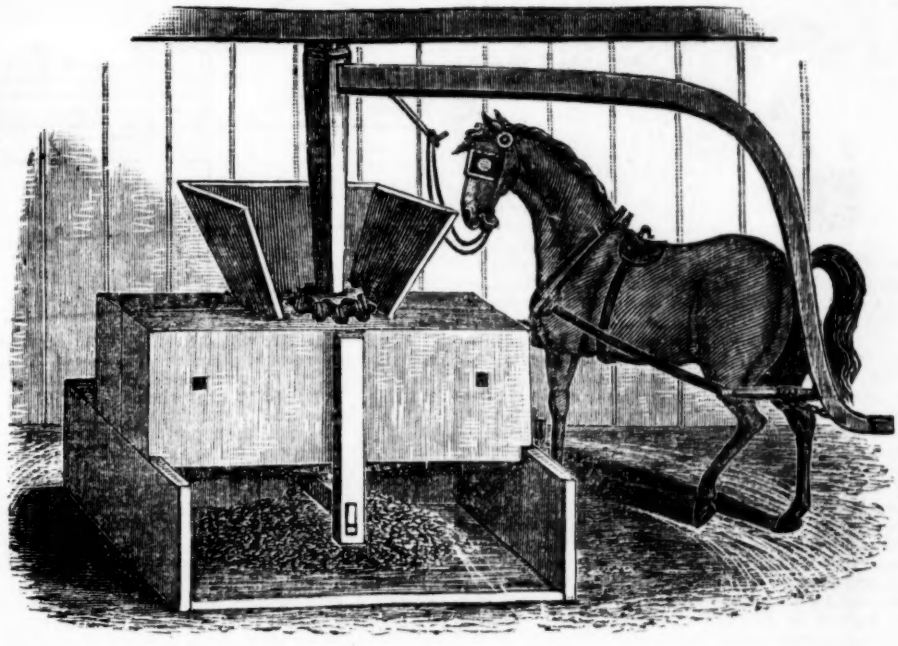
A, pantries—B, cupboards—C, an oven with an ash hole underneath in the cellar—D, doors—E, cellar stairs—F, chamber stairs—G, bed rooms—H, wash room—J, store-room—K, clothes room—L, fire places—M, kitchen—N, parlor—O, piazza in front—P, wood-house—2, 2, platform or back piazza from the dwelling-house to the wood-house, and could, if closed up at the ends, be used as a very cool and airy milk-house for summer, a work shop, or any other purpose a farmer thought fit.

You will see by the plan of the lower floor, that not one inch of room is lost. I am well aware, that there will be some who will dislike it because there is no entry to the house, consequently I have left off two small wings on the sides, and have entrances at the sides. If that would not suit, shift the front door and the back one, and have an entry all through the house from S. to S.

This is a story and a half house, which, should a person wish an entry through, he could very easily have two convenient wings added to it, if he had the means. As I don't approve of cellar kitchens, I will dispense with one, and have the cellar under the whole body of the house; and have the well and cistern enclosed within the walls of it, with pumps to lead up through the floor of the wash room. The ash hole to be under the oven, through which the ashes can be emptied into the ash-house, which is fire proof, in the cellar. The house is intended to be forty feet square. The one I live in, on which I have improved, is thirty-six feet square, and were it filled in with brick, I would not exchange for comfort and convenience, for that costly brick mansion near by, which cost twenty thousand dollars or more.

Skaneateles, Jan. 22, 1840.

A. H. N.

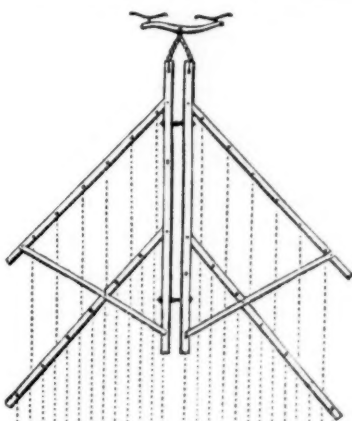


BOOTH'S CIDER MILL.—[Fig. 65.]

Messrs. GAYLORD & TUCKER—Knowing your desire to communicate to the readers of the Cultivator, all useful inventions, I take the liberty of informing you of an invention by Mr. Nathan Booth, of this town. It is a mill for grinding apples for cider, and all roots for cattle, sheep and swine. I send you a plan of this mill, which is in general use in this section, but I believe is not generally known through the country. The plan, or engraving of it, is so plain as to need no particular description. It is constructed on the principle of the old and well known box coffee mill. It is built of wood, and secured from ordinary wear, by strong iron bars. On the plan, you can see one end of the hopper, and the trough left out to show the operation of the mill. I own one of them, and have used it for some years. It is the cheapest and most durable mill I have ever seen; and I believe I have seen most of the different cider mills in the United States. The expense will not exceed forty dollars. One horse will grind forty bushels of apples in an hour, with ease. It has the preference of all other mills, where it has been introduced. Numerous recommendations could be furnished, but the unprecedented success of the mill, wherever it has been used, is sufficient. Twenty-one of them are in use in this town, and about one hundred and fifty in other places in this state, all in successful operation. Apples will be in abundance this season, and farmers should soon prepare to take advantage of this great improvement. Mr. Booth, the patentee, is now erecting many mills, and has several agents in his employment. He will erect mills in any of the adjoining states, should early application be made. He will superintend the construction himself, or by some experienced agent. Receipts for rectifying cider, and preserving it sweet through the summer season, without the use of spirits, will be given with the patent right for each mill.

Cheshire, Ct. June, 1840.

CLAUDIUS ALLEN.



BODDEN'S HARROW.—[Fig. 66.]

Messrs. EDITORS—In your March number of the Cultivator, I saw a draft of a harrow something resembling my harrows, which I have used for the last five years, but as far as I am capable of judging of their structure, I think mine has some advantages over Mr. E. Wells' harrow, inasmuch as mine covers a space of 8 feet 4 inches between the two outside teeth, which space is just right for a man to sow grass seed after the harrow; and as Mr. Wells' is only from five to six feet, it is too small for that purpose. The hinges go through the timbers, and are secured with screw nuts; the two center timbers are 2 1/2 inches by 4 inches and 6 1/2 feet long, with the inside corners planed off to allow the harrow to open freely; the 4 side arms are 2 1/2 inches by 3 inches and 5 1/2 feet long; the two braces are 1 1/2 by 2 1/2 inches, notched out half an inch deep where they cross the arms, and bolted on with half inch screw bolts; the timber is all of the best white oak. This harrow has 26 teeth, the track of the teeth is 3 1/2 inches from center to center, and it makes very good work at that distance. If you deem this worthy of notice in your excellent publication, it is at your disposal.

Yours respectfully,

JOHN BODDEN.

Springfield, Poughkeepsie, March 25, 1840.

## PLAN OF A PIGGERY.

Messrs. EDITORS—I send you a plan of a piggery which I had constructed last summer, which I prefer to any I have seen or heard of, Mr. Allen's not excepted. Mr. Allen's piggery is perhaps as near right as may be, for one on so large a scale, but it is rather too extensive and expensive for the generality of farmers. The cost of his piggery is stated at \$365, allowing 10 per cent for wear and interest, makes \$36.50 per annum, to be deducted from the profits on your pork. I see no dry place for his pigs to sleep in—his yards must be very narrow, and when he cleans his pens, he must empty them into the yard where his pigs run, which is not well—his piggery lacks a place to keep cooked food in winter, from the frost. In Mr. Allen's plan, the food has to be carried by hand—I would suggest as an improvement, a rail road, on which the food might be conveyed and fed out by means of a scoop shovel.

I am not prepared to decide in favor of steaming food for hogs, to the exclusion of kettles, but were I to use a steamer, I should prefer one on the plan recommended in the Cultivator for this month. They are in use in this quarter, and answer a good purpose. In my piggery, I have two cauldron kettles set in an arch, which I use for cooking the food for my hogs, for butchering, for making soap, sometimes for washing; and I am now boiling maple sap in them. Instead of steaming a large quantity of food, and feeding it dry, I boil potatoes, pumpkins, and apples, pound them up fine, with meal; let stand one day and two nights, when it will have fermented. In feeding, I mix it with milk. I kept 24 shoats last winter, at an expense of 30 cents per day, in the following manner: I put them in four pens (too many in a pen will not do well), and fed them ten pounds of hay, half a bushel of potatoes, and four quarts of corn meal, daily, and never had hogs winter better. I cut my hay fine, boiled it with plenty of water, in one kettle; my potatoes I boiled in the other kettle, pounded them fine, mixed them with the hay and meal in a tub which I kept in the vat i, (fig. 67) let stand over night, when it will have fermented. I throw out all their bedding every 4 or 5 days, and put in new. But to the piggery. Let me say, that the farmer who has never had a good one, can have no idea of the comfort, convenience and profit of one. While the person who has tried one, I venture to say, will never consent to shut up his fattening hogs in a pen made of the length of rails joined to the highway fence, without floor or roof; and feed them nothing but corn in the ear, (and in the mud) washing it down with cold water from the hog trough. The frame of my piggery is 18 by 28 feet, and makes a cooking room 14 by 18, which answers for an alley to



the pens. The floor is laid with sufficient slope to carry water off from all parts of it, through an opening under the stairs, made for that purpose. In butchering, I drive my hogs into the upper pen, take out one of the studs which are back of the trough, and is let into a groove above, for the convenience of being taken out when necessary; raise the door that shuts over the trough, and draw out the hogs for dressing. Over this room there is a store room 14 by 18 feet, for ground feed, &c., and is convenient for a loom, &c. Corn can be shoveled directly from the wagon into this room, through the upper door, for sorting, &c. In the north part, are two pens, the lower one 14 by 18, and the upper one 13 by 18 feet; above the pens I have a corn granary with a door communicating with the store-room—the posts of the south part are 13 feet, north part 11 feet, each part has a double roof. The pens are parted in the middle by a swing partition, hung with hinges at the top, and when required, can be swung up and fastened by a hook to the timbers above. My ground descends from the dwelling-house and well, north to the piggery, and I have a conductor from the well through the window of the piggery. I contemplate making a conductor from my kitchen to the piggery, under ground, for the passage of milk, &c., and a cellar could be constructed under the south part of the piggery, for storing roots, &c., also yards on the west side, with a bridge to correspond with the yard on the east side. The studs back of the trough, are 12 inches apart in the clear, which gives room for 30 hogs to feed at once. From what experience I have had in feeding swine, I conceive this to be about such a piggery as all farmers ought to have, being large enough to accommodate most, without being too large for the general class of farmers. I took from my piggery in February last, nine loads of manure, which I estimate at half the yearly interest on the cost of the buildings. Another fall, I intend to put all my manure in a pile at the north end of my piggery, and add to the quantity, by mixing in straw with it. The building, sided and painted, cost, say \$110.

a, a, a, a, (fig. 67.) ground plan. b, open space 8 inches wide, to feed hogs in lower pen. c, trough in upper pen. d, d, studs 2 by 4 inches edgewise to the trough, to separate the hogs when feeding—same in lower pen. e, sleeping room—same in lower pen. f, partition swung up and hooked to timbers above—same in lower pen. g, furnace or arch with two cauldron kettles, with a box (large enough to cover the top of the kettles) in the form of half of an eighth square—the end next the stem of the chimney to be raised two feet above the kettles, and fastened by two hinges—the other end rests on the stone work, and has a cord attached, passing through a pulley above, to raise the box when required. This box conducts the steam to an opening 3 by 6 inches made for the purpose in the chimney, when the draught of the chimney carries it off. h, tub, size of a half hogs-head, serves as a reservoir from the well, the bottom of the tub higher than top of kettles, with a spout leading to them. i, vat 4 by 6 feet by 3½ feet deep, made of plank, the top even with the floor, with a trap door to shut tight for keeping food in winter—the underground conductor before spoken of, can open into this vat. j, stairs. k, k, two open yards 14 by 15 feet. l, bridge with rails on each side, to lead from the east yard to the upper pen. m, m, m, m, doors communicating with the yards.

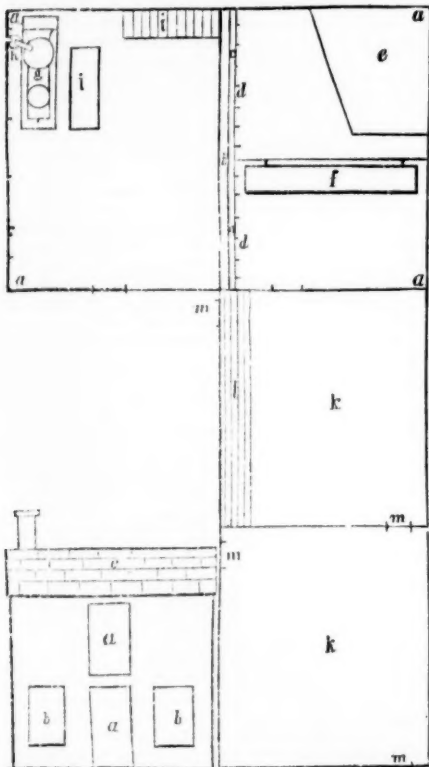


Fig. 68—South end—*a, a*, two doors—*b, b*, two windows, 12 lights 7 by 9—*c*, south half of roof.

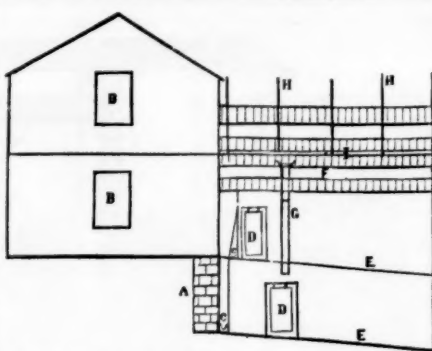


Fig. 69—East side with the siding off the north part, and view of the ground plan of the corn floors. A, stone wall 4 feet high, 18 inches thick, running across the building. B, B', two 12 light windows, 7 by 9. C, C', end view of two feeding troughs, one in the upper, and one in the lower pen, the upper one having doors hung over it, with hinges at top to swing back when putting in food. D, D', two doors 2 by 3 feet, for passage of pigs to and from yards, hung with hinges at top to keep out fowls, &c. E, E', floors of each pen of 2 inch plank, perfectly tight, with slope of 4 inches from the trough—the upper floor projects 2 inches beyond the building on the north end, with an opening 4 inches wide the whole length of each floor, for cleaning pens and draining off water. F, floor for corn, with an alley through the middle 4 feet wide, floor laid tight with a board on each side one foot wide, for shelling corn—on each side of the alley, loose floor with slats—2½ feet above this, and even with the plates, another floor of slats for corn. G, conductor running from the alley F, through the upper pen into the lower one, having a valve near the top by turning which, food can be conveyed to either pen. H, H', rafters. I, plate. Yours respectfully,

ELI C. FROST.

Catharine, Chemung Co. March 30, 1840.

#### Meetings of the State Agricultural Society.

MESSRS. EDITORS—I wish through the columns of the Cultivator, to suggest to the State Agricultural Society, the propriety of changing the time of its meeting, from the first Tuesday in February, to the first Tuesday of September, and let the present one be held in Albany, that of '41 in Buffalo, of '42 in Utica, of '43 in Rochester, and then again commence in Albany. The great benefit of these proposed changes, cannot but be obvious. As now held, in the most inclement season of the year, and always at a place far from central, but few only attend, and it has ever been characterized, as a cold, dull, uninteresting meeting, and it has become the pretty general opinion, I believe, among the members, unless something can be done to arouse public attention toward it, the Society must soon cease to exist. I am perfectly satisfied for one, that this cannot be done as at present assembled, for nobody travels for pleasure in the winter season, and all with whom I have ever conversed upon the subject, are just of my opinion, that they had much rather read the able reports and proceedings from the pages of the Cultivator, at their own warm firesides, than travel 50 to 300 miles, as the case may be, to hear them read by their authors.

The beginning of September, is the most delightful part of the year, the season of both fruits and flowers, and when all traveling communications are open, the roads most perfect, and the country most beautiful, and being at the close of the summer, and ere the fall harvest has commenced, is perhaps upon the whole, the most convenient time for the farmer to leave home, and is that period he most generally selects to make his pleasure journeys. He could then take his wife and daughters along with him, and how much these would contribute to the interest of the meetings, would be very needless for me to add. Bright eyes and blooming faces, would be a stimulus for speakers to acquit themselves with the more grace and spirit. Then beneath some shady grove, what a glorious dinner could be got up it might be made a real *fête champêtre*, or in plainer English, a regular picnic, or if you please, a Kentucky barbecue.

There would be the ladies, with fresh fruits and flowers, (themselves the fairest,) and cakes, pastries, butter and cream—the gentlemen with Durham, Devon, and Hereford beef; Lincoln, Leicester, Cotswold, and South Down mutton; Chinese, Berkshire, and Neapolitan hams—curious potatoes, parsnips, beets, ruta baga, cabbage, and carrots, wheat, Indian, rye, and barley bread, a few barrels of hard cider, and more of home brewed beer, besprinkled with a fair bottling of raspberry and currant wine. What a delightful union would this not be, and what an opportunity for interchange and correction of opinions, and promoting the cause of Agriculture. The advocates of improved meats, grains, and vegetables, would not be obliged to confine themselves as now, to long written arguments elucidating the superiority of their several productions, but could address them directly to the tastes and eye—seeing, and above all, eating, is believing. I am sure that such meetings as these would soon interest the whole state, and be looked forward to with more pleasure and interest, than any thing that could be got up, and no one, whatever might be his profession, but could attend it with satisfaction and profit.

This might be succeeded the next day with a show of animals, vegetable productions, and domestic manufactures, and lastly perhaps, by extensive sales of stock and fabrics. Indeed, there is no counting the good that might be done, and the aid and stimulus that might be given to agriculture, by such an annual assemblage.

The reason why I would prefer alternating the meetings at different places, would be, to thereby engage a greater number to come to them, and give a more general diffusion of knowledge and interest throughout the state. Many would attend at Buffalo, that never would at Albany, and so vice versa, besides each place presents different natural attractions, that many of us journey annually expressly to see. At and near Albany is the glorious Hudson, the Cohoes and Saratoga Springs. At Utica, are the Trenton Falls, which for wild variety and picturesque beauty, are inferior to none others in the world. At Rochester, is the Genesee, and at Buffalo expansive lakes, and that wonder of the world, Niagara. Who will then not vote for a change in the time of the meetings of the New-York State Agricultural Society? It seems to me, really the only way to give a general interest to its proceedings, and call out the attendance that our transatlantic brethren have been so successful in obtaining, when forming similar societies.

I have never heard any other argument for the meeting of the Society at the time it now does, than a hope that its proceedings might have some influence over the Legislature. But here it has gone on year after year, and what has been done? Just nothing. The Legislature will be what the people please to make it, and the farmers themselves must be interested, nay demand aid before it will ever be granted them by any Legislature whatever. New-York might take precedence in agriculture, as she has in commerce, and in so doing add largely to the latter, it being but the attending handmaid of the former, and with all this, greatly extend her domestic manufactures, thus increasing vastly, her wealth, population, and general resources.

I hope to see this subject discussed, and if the President has not already the power of calling such a meeting, let the members assemble forthwith, and give it to him. It is needless to say, that we already have an annual fair at New-York: this is more a national, than a state assemblage, and is too far off for the great mass of farmers to attend, especially with their families.

AGRICOLA PUBLICOLA.

Buffalo, June 9, 1840.

#### BERKSHIRE PIGS.

I have just read Mr. Lossing's article upon Berkshire pigs, and would object to the description given of Mr. Hawes' and his own importation of them. He quotes Mr. Hawes, as saying, "that he never knew a full blood to have less than three white feet, some white in the face or end of the nose, and occasionally some white hairs interspersed over the whole surface, the end of the tail invariably white." First, I object to the description as being too particular about white feet and white tail, and next, I object to it on account of pigs sold by Mr. Lossing, and his friends about Albany, not answering to his description. I purchased eight pigs in and near Albany, last spring, and three of them have no white on the ends of their tails. The pigs without white tails I believe to be as good and as genuine as those with it. All the above pigs were recommended to me by Mr. Lossing, and one lacking white on its tail, out of his Teal sow by one of his imported boars, was sold to me by Mr. Lossing himself.

I will now prove that the Berkshire hog, was a red or tawny hog, with brown or black spots.

In the 6th edition of the Complete Grazier, published in London, in 1833, page 294, speaking of the Berkshire breed, it says, "the specific characters of which are a reddish color with brown or black spots; sides very broad; body thick, close, and well formed; short legs; the head well placed, and the ears large, and generally standing forward; but sometimes pendant over the eyes. Another distinctive mark of this breed is, that the best are without bristles; their hair long and curly." The British Husbandry, (a standard English work,) agrees with the Complete Grazier, in assigning the same color, so does Loudon's Encyclopedia of 1831.

I hope the above is sufficient proof that the Berkshire was a red hog with brown or black spots. Now as the original Berkshire (the genuine article,) was red and black, I shall endeavor to show how they came by their present colors. But before going any farther, I would state, that the eastern hog was resorted to to change a coarse, heavy eared, curly haired, great consumer, into a fine boned, thin haired, thrifty animal. With this explanation, I shall proceed to the China hog. "Of these there are two nearly distinct kinds; the white and the black." "The Chinese hog is of the widely extended Siamese breed of the east, a race which extends from the continent to the island of Sumatra, New-Guinea and others, and to all the islands of the South Seas."

We are told in Low's Elements of Agriculture (an English work,) that "The Berkshire is the earliest of the improved breeds of England, and is now the most generally diffused of all others. It was undoubtedly formed by a mixture of the eastern hog with the ancient swine of the country." "The modern Berkshire, however, is of a less size than the older breed; but still the animals are of the larger class of swine. Their common color is a reddish brown with dark spots. Many of the breed are nearly black, manifesting their near approach to the Siamese character, and sometimes



they are black broken with white, indicating the effect of the cross of the white Chinese."

Mr. Letton, a gentleman justly celebrated for his knowledge and experience in breeding fine hogs, after traveling extensively over England, in search of hogs, selected a white Berkshire boar of the improved breed for a breeder. Mr. Letton had imbibed Mr. Lossing's prejudice in relation to color, before he visited England. And Mr. Williams says in his certificate to Mr. Letton, (Franklin Farmer, vol. 3, page 10,) "The origin of the late improved Berkshire is a cross on the black Berkshire sow, with the large white China boar which gives the color white."

An improved Berkshire boar that I imported from England, last fall, is entirely white in hair, with a spotted (black and white) skin; he has all the fine points of the best of the Berkshires, and is one-third larger than those of his age purchased near Albany. I have no disposition to deny the general characteristics given to Mr. Hawes' and Lossing's importations, if not extended so far as to exclude those that are acknowledged to be of the best blood. But I do object to his denying purity of blood to all other importations of different colors, when his own lacks the original color. We are told in English standard works, "that every county has its peculiar kind, the superiority of which is maintained in its own district and denied in every other, and some of the best are bred in Staffordshire."

I have many hogs, descendants of Mr. Hawes' and Lossing's importations, and have but one of the white Berkshires, and this one is acknowledged by me to have eastern blood in him, for which I prize him much more than I should if he was without it. For I consider eastern blood just as important to the hog as to the race horse, and as no good turf horse can be found that is without it, neither is there any good hog that lacks it. I think that considerable injury has been done by representing the Berkshires as possessing superior size, and competent judges guessing them greatly above what they will ever weigh. The purchasers are led to expect hogs of much greater size than their own will ever be; they feel disappointed and are led to condemn the Berkshires. I have no doubt much injury has also been done them by unprincipled men, representing as Berkshires, hogs that were not. But Mr. Lossing's article will afford no security. I have three quarter blooded pigs that possess all Mr. Lossing's marks, and two of the full blooded ones purchased of the Shakers, and one purchased of Mr. Lossing, lack the white tail, and another purchased also of the Shakers, near Albany, has but two white hairs in her tail.

Mr. Lossing's information is not correct in respect to the Berkshires taking premiums in every county in the state of Kentucky, last fall. The Berkshires have never taken a premium in this (Clarke) county. The premiums have been divided between the Woburns and Irish Grazer hogs. The Berkshires were beaten in more than half the counties from which I had heard any particular account. I know nothing about the premiums given in Ohio.

SAML. D. MARTIN.  
Colbyville, Ky. May 26, 1840.

#### Chou Billardeau—Billardeau Cabbage.

To the Editors of the Cultivator.

GENTLEMEN—I have recently received from the hands of a kind relative in Paris, a small parcel of the seed of a cabbage, which if it answers the description given of it by the individual who introduced its culture in France, is destined to hold a high rank not only in the horticultural but agricultural department, and should it be adapted to our climate, will no doubt in time, become most extensively cultivated, more especially for stock, sheep, &c.; it is called the *Chou Billardeau*, and takes its name from the individual to whom we are indebted for its origin. Accompanying the package forwarded, was a letter from Monsieur H. Billardeau, which I have now before me, who states that he sowed the seed in October, 1837, but gives no account of its origin. He thinks the spring, say the months of April and May in this country, a preferable time for sowing, describes the mode of culture, &c. similar to that of other cabbages, states the leaves to be five or six French feet long, and the product in leaves in the two years of its vegetation (it being biennial,) to be from 1,000 to 1,200 pounds to each plant. They are represented by him, to stand the winters of that climate, and to furnish leaves in the coldest and most rigorous seasons. He draws a comparison between them and the *Chou Cavaliere* or *Chou Verte*, presumed to be the cow cabbage, a species of cabbage which he says, is so extensively cultivated in Brittany and Normandy, (famed for the superior quality of its milk and butter,) and concludes by affirming, that this new species possesses all the qualities appertaining to the former, and its product to be a hundred fold. Under the influence of feelings arising from the impositions so frequently attempted to be palmed on the deserving but too credulous class of agriculturists, I could not at first but look upon it as a humbug, and felt tempted to exclaim with the Roman bar, "Credat Judeas apella," &c.; but from the respectability of the source whence the package was received, shall for the present suspend my opinion, and having now about one hundred thriving plants up, look forward with intense interest to the result, which may tend to remove or confirm my previous incredulity. By a hasty calculation made by me, supposing the plants to be put out at the distance of fourteen feet each way, if correct in his statement, (taking Monsieur Billardeau's lowest estimate of the weight of the leaves of a single

plant,) an acre will yield about one hundred tons in weight in two years, or fifty tons per year.

#### The Galactometer.

I fear that I have become already too prolix, and occupied too much space in your valuable columns, to the exclusion of matter that may be deemed of more importance to many of your readers; but I feel irresistibly impelled, before concluding, to notice a simple instrument lately invented in France, for the purpose of testing the quality of milk, called *Galactometer*, differing entirely from another instrument I have seen an account of, in Fessenden's Complete Farmer, called the *Lactometer*. The latter is intended to test the quality of the milk, by the thickness of the cream. The former consists of a glass tube, the bottom of which is somewhat globular, enclosing a small portion of mercury, which, being immersed into a vase of milk, sinks or rises according to the relative quality of the same, showing at the surface, by the lineal indices as well as numerical, the different grades from one half milk and water to pure milk. It will be found not only useful to the dairyman in the selection of cows to breed from, but to inhabitants of our cities, who are subjected to so many impositions in the purchase of this, to them, so great a luxury. For fear I may not be understood in the above description, a drawing of this instrument taken by my son accompanies this,\* and will be found correct in every respect, both in the dimensions and form. They are quite new here, and I know of but three in this section of country, two in the possession of Gen. John Mason, of Clermont, Va., and the one in my hands, to which we are indebted to the kindness of a relative of mine, and an old friend of the General, now holding an official station in Paris, sent to us last fall from France.

Montgomery co. Md. May 11, 1840. B.

#### NOTES OF A TOUR.

GENTLEMEN—In a recent tour of considerable extent and variety, in the eastern section of our country, I have met with many things to gratify the friends of agricultural improvement. Through the whole length and breadth of this favored land, the constant operations of industry, under the guidance of intelligence and taste, are clearly discernible. The rugged forests are every where disappearing, and their places supplied with green pastures, luxuriant meadows, or abundant crops; or if wood-lands are still retained, the new growth of selected trees shoot up with a grace and beauty seldom found in the dense and matted masses of our native wilds. The log cabin gives place to the handsome cottage, and the slight, frail tenement of the pioneer, to the substantial farm-house, or more elegant mansion of the wealthy husbandman. Nor does the career of improvement stop with the more convenient and accessible portions of the soil; everywhere nature is pursued in her remotest haunts, and everywhere subdued; and from the self-sustained luxuriant bottoms, to the verdure-clad summits of the loftiest hills, the untiring energy of our Anglo-Saxon race is throughout conspicuous. The highways are made better and more direct, and the lightning paths, with their fierce engines glaring like meteors through the sky, convey the traveler from point to point with such rapidity, as to leave him all his time for his favorite pursuits or observations, requiring scarcely an appreciable portion of it for locomotion.

#### Draining.

One feature of recent improvement was peculiarly gratifying, and in it I thought I perceived the influence of what is too often sneeringly called *book farming*; a term, I venture to say, was never sincerely used, but where stupidity or stubbornness reigned supreme. To a considerable extent, ditching and draining low lands has been practiced, and in every case with entire success. Land that before yielded scarcely a handful of coarse herbage during the season, by the expenditure of a few dollars in ditching and putting into a state of cultivation, has been made worth 50 to \$150 per acre; for almost invariably, the low swamp lands, when freed from water, are vastly the most productive. Much controversy exists as to the mode of draining best suited to our country, and the question yet remains unsettled. It is undoubtedly proper that the plan should vary with the situation of the land.

It would seem, on a hasty view of the subject, that the labored efforts of some well disposed persons to introduce the expensive modes adopted in Europe into our own country, are as inappropriate as if the attempt were made to introduce the paraphernalia of royalty, or a church establishment into our republican institutions. Their system is thorough underdraining, principally with tiles or loose stones, placed at a sufficient depth to allow a coating of soil deep enough for all the operations of husbandry to be carried on as if no drains existed; and this is undoubtedly the perfection of draining; but the expense of this in our country, would be from 50 to \$150 per acre; an outlay so excessive that we apprehend for half a century to come, it cannot be practiced here unless in the neighborhood of large cities, where land is worth from 300 to \$600 per acre for cultivation, the price of good farming lands in Europe. The system may be applicable and advantageous to this country, and it is much to be wished that some wealthy and patriotic individual would institute a series of scientific and practical experiments on this subject, and communicate the result, and it is possible it might be found, af-

\* The drawing alluded to did not reach us.—Eus.

ter all the expense, the capital would be more judiciously invested than if expended in additional land, to be cultivated in our hurried and imperfect manner. If once, however, but generally adopted, our whole career of border extension and colonization must be abandoned, and the constantly expanding wave of emigration must contract and speed its reflux force centerward again, for we have run around land enough on this continent already, to sustain, with proper cultivation, a nation of untold millions. Can our national taste for adventure and western emigration be checked and turned into the more sober and perhaps rational pursuits of a highly cultivated husbandry? We think not—a truce then to underdraining with us, for without the countless hordes that are yearly migrating westward, like the locusts of Egypt, we cannot pursue it to any extent.

There is much, however, we can do, in this matter, and at a trifling expenditure of manual labor. And here I will mention one mode of underdraining, probably of Yankee invention, as I have never seen a description of it. It is performed in heavy clay lands, where ditches are most required, by excavating a trench, say of 12 inches wide, with perpendicular and parallel sides, to the depth of 12 inches; or if it is contemplated using a subsoil plow, to the depth of 16 inches, then from the center of the bottom a sub-ditch is excavated, of 5 to 6 inches square. The sod taken off the entire width from the top is then inverted and placed at the bottom of the upper ditch, and becomes a durable cover when filled to the top, thus doing away with the large expense of tiles or stones.

Our system must essentially combine economy with utility, and this can be effected to a very great extent in surface drains. These should exist wherever water remains on the ground after rains, or when it is too much saturated with springs in the vicinity. No stagnant water should ever be allowed in a civilized country, for besides its effectual hostility to all useful vegetation, it poisons the atmosphere and becomes the prolific source of half our diseases and deaths. If a systematic course be pursued in all the operations of the farm, much draining may be effected with scarcely any additional trouble and expense. For instance, all clay and flat lands should be plowed into narrow ridges, and every successive plowing should be directed to make the more elevated portions higher, and the depressed one still lower, always preserving an outlet, that the water accumulated in the last shall be carried off freely, and by this means the whole surface becomes a succession of surface drains without the expenditure of a day's labor to an acre. In many instances, however, main ditches will require to be cut for a considerable distance, to get sufficient depth and slope to carry off the water rapidly, and when the principal drain is made, the tributaries can be completed at a trifling expense, either with the plow and hoe or the spade. To illustrate my meaning, I will describe the manner of draining a piece of land I recently adopted. The lot consists of a stiff clay, running back from the Niagara river, with a gradual ascent of not more than five or six feet for a mile. It is traversed through the whole distance with irregular undulations, but the ridges almost universally running parallel with the river. At right angles with the river, and across these, I run a ditch four feet wide at the top, two feet at the bottom, and from one to three and a half feet deep, so as to preserve a uniform descent on the bottom, thus cutting transversely all these longitudinal ponds, for they were nothing else in ordinary wet seasons, and a little additional work with the spade or plow, effectually carries off all the surface water. The whole expense of this does not exceed one dollar per acre. Now let us see the profits of this operation. If this land be worth \$60 per acre, to cultivate in its original condition, and much of it has been sold at higher prices, and one-fourth of it was covered with water, which was generally the case to a sufficient extent to prevent the growth of nutritious vegetation—by expending one dollar I increase the productive land by the addition of another third to the original amount, which is equivalent to increasing the value of the investment one-third of \$60, which gives me \$20 gain for one expended.

I have seen an acre of marsh grown up with rushes and cat tails, that could be drained by one man's labor in two hours, and when done, it would be worth any two acres on the farm, and yet to this moment it has not got into the brain of the owner or a dozen of his intellectual predecessors, that this could or ought to be done; and it may have been the cause of half the diseases in the neighborhood for two centuries! These men have never been troubled with *book farming*—nor did they ever take the Cultivator; from such nodules, and such only, are we ever to look for hostility to either.

#### Cattle, Sheep and Swine.

In stock, I was glad to notice considerable improvement. Through New-England there seems to be little difference in their herds for the last twenty years, except in the gradual improvement of their native cattle. And it is possible, after all, that our Yankee kindred may be mainly right as to breed. The accidental circumstance of the port for the embarkation of our pilgrim forefathers to their future varied and picturesque abode, happily afforded them a convenient source of supply from the herds of fine Devons that abound in the neighborhood of Plymouth, and from them, with more or less admixture, have descended the present extensive herds of the eastern states. These animals, though habituated to a warm climate, which was but a temporary inconvenience, are entirely suited to the character



of the country they were destined to inhabit; their smaller body, longer and sinewy legs, and especially their great susceptibility of taking on flesh, rendered them easy and profitable feeders, and their extreme richness of milk, superior working and excellence of beef, has justly made them a favorite breed to the present day. They do not give the extent of product on the same number of legs as the Short Horn, the Herefords, and some others; but if they yield as much or more for the quantity of attention and feed consumed, they answer all the ends required by the intelligent herdsman. The native cattle have, to a slight extent, been crossed with new importations of Devons, improved Short Horns and Ayrshires, but this has only been done to a limited degree, and with great carelessness; for on personal inquiry, I have found that some of the most intelligent and liberal minded citizens, hitherto instrumental in procuring these animals from abroad, have not now a single pure blooded animal in their herds. There is the grand fault with our Yankee breeders, the total neglect of pedigree and purity of blood, for unfortunately their ancestors, in abjuring a hereditary nobility and the rights of primogeniture, carried their reform from the biped to the quadruped, and made genuine democrats of the whole race.

The principle of placing every man on his own merits, is undoubtedly a good one, though it may be controverting the authority of an omniscient providence to deny that the son of wise and virtuous parentage, is not more to be relied on, other things being equal, than the child of ignorance and sin; but in the animal economy there is none of that human dependence on ancestry, for no truth has been more fully established as a general rule than that "like produces like." We must, then, in accordance with this principle, look for capacity in producing good animals, not only to what the individual under consideration is in itself, but also to what its ancestry has been on both sides for generations, as characters they faintly exhibited, or scarcely discernible in an individual, may, from its long inheritance be so grafted with the constitution, as to be reproduced in successive generations to a great degree.

There seems to be a field open east of the Hudson, to the enterprise of persons of capital and taste, not to any considerable extent hitherto occupied or maintained. The fact as to the scarcity of pure bred cattle, of any description there, is, I believe, incontrovertible, (and if incorrect, I shall be most happy to be set right in the matter,) and this want is the more conspicuous, from the general intelligence and thrift that pervades that region. Liberal gentlemen have, from time to time, imported some of the choicest stock from Europe, but these have soon become mixed with the general mass, and after a few years not an unadulterated animal could be found. They have been the means of conferring some benefits, but not all that ought to result to the community. The great desideratum is the possession of pure bred animals of whatever description they may be, whose peculiar excellencies shall be constantly augmented and sustained by judicious crossings with domestic and foreign stocks of similar breeds. In the selection of species best suited to the country, a diversity of opinion, resulting in the introduction of several different kinds, would be beneficial rather than otherwise, for a competition would be produced, highly favorable to successful results, and the advocates of the Short Horns, the Herefords, the Devons, the Ayrshires, and the native breed, could test the relative merits of their respective herds, by direct comparison. In this essential feature of agriculture, England is far before us, and must forever remain so, unless we adopt this system, which, as it has to some extent been already commenced, we hope may, with the usual ardor and zeal of our countrymen, soon be fully carried out.

The best specimens I have seen, are the Herefords recently imported by Mr. Sotham, and now in the neighborhood of Albany; but as he promises a description in your journal, we may all hope to know more about a breed that has, for a long time assuredly, been held in high estimation abroad.

There seems to be considerable progress making in adding to the carcass and fleece of their sheep. In Merinos and Saxons they have long held the preëminence; but the excellence of the woolly tribe has been, to no inconsiderable extent, varied and multiplied by the addition of the South Down, the Bakewell, the Leicester, the Lincolnshire and the Cotswold; of these last there were some very superior imported by Mr. Sotham, at the same time with his Herefords; and at the residence of Messrs. Bagg and Hart, of Montgomery, Orange county, who are also importers of stock, I saw a considerable flock both of Cotswold and South Downs, hardly I should judge, to be surpassed. With such choice stock before them, our intelligent countrymen can scarcely fail to come to a correct conclusion as to the comparative value and profit of the different breeds. It is much to be wished, however, that those who have kept them for some years in the vicinity of other flocks, should give us the results of their experience as guides to future experiments. They have all, to a greater or less extent, been highly estimated abroad; are they equally valuable at home? We want experience in this matter, which is the only true test for the farmer.

In swine a considerable improvement has taken place, so far as a cursory view would enable me to judge; their legs and snouts have been shortened; their ears set up and trimmed off; their backs become broader, and a portion of their bristles put on the other side of their skin and converted into good pork, and the *loute ensemble*

ble of the grunting tribe, has been very perceptibly bettered. And this improvement, so far as my observation extended, has invariably been the result of the infusion of a large portion of the Berkshire or China blood. This origin was generally sufficiently obvious at the first glance, but in one instance where very fine pigs were shown me, with a long body, broad back, and sustained through the whole length, and terminating in a finely rounded ham; thin hair and no bristles; large of their age, and kind feeders, yet entirely white, I was struck with the perfection of their form, and thought if rivals were to be found for the Berkshires, they were then before me; but looking a little farther on the same premises, I saw a fine, pure Berkshire sow, which on inquiry, proved to be the dam of the perfect pigs; the mystery was at once solved; they had embodied all their superiority from the female ancestry. There was another superior lot of pigs I saw at the Worcester hospital, produced from successive crosses of the China on the Bedford, which the intelligent head of that well conducted and magnificent establishment informed me, with ordinary keep, usually gained one pound per day for the first twelve months, at which age they are slaughtered. Their great size they get from the Bedford, and their great thrift from the China. The truth is, that the Berkshire and the China are the perfection of the hog kind; and these perfections have been so thoroughly bred into them for successive generations, that they impart a much larger share of improvement in a cross than any other, and perpetuate it through a remote posterity.

But on the subject of stock, as that of drains, it is too generally the case that our farmers are "penny wise and pound foolish;" they object to the first cost, when in both instances they would frequently be repaid the first year, and have their investment left as capital, yielding a large income annually thereafter. It is to be hoped the prevailing spirit of the age, whose every aspiration is onward, upward, will not fail to inspire them with a just appreciation of their true interests.

Very respectfully yours, R. L. ALLEN.  
Buffalo, June 12, 1840.

#### Bloody Murrain caused by Leeches.

MESSRS. EDITORS—Having lately lost a valuable ox by what is called in this part of the country, bloody murrain, which, however, differs from that disease as designated by writers of the old countries, I have been led to investigate this disease of our cattle, and therefore examined the body of the animal, which I conceive to be the true way of investigating disease, both in its nature and cause, either in the human or other animals. But I will proceed regularly, and first designate the symptoms. The first I observed was the loss of appetite, with trembling of the limbs and twitching, and unwillingness to move; then discharge of blood from the bowels after dunging once; also from the bladder; no apparent pain until just before death, which happened on the second day of the disease. Is it not a singular circumstance, that other cattle are disposed to worry and goad a fellow sufferer on the verge of death? On examining the body, all parts were in a healthy state, with the following exceptions:—The bowels were filled throughout with pure blood, the parts in the neighborhood of the liver, and which were placed against its under side, were discolored with blood, which appeared transfused through the coats of the stomachs on that side. The stomachs were all in a healthy state, and more or less filled with hay in a partly digested state. One singular circumstance presented, which, however, was in no way connected with the disease, and probably would have occasioned nothing unfavorable to the animal, had he have lived; it was a shingle nail run through one of the ridges of a lozenge of the paunch. The liver was to all appearance healthy, except the transfusion of blood through the center of it. From the center of the liver I extracted several water leeches or blood suckers. Two writers in the last volume of the Cultivator notice this complaint, pages 90 and 120—one of them considers regular feeding as a preventive; the other (Mr. Warner) says—"The bloody murrain is occasioned by an extended and overflowing gall, affecting the liver, causing the leeches or blood suckers therein, and the flow of blood outward or inward,"—"that the wood herbage induces the extended galls"—that all have extended galls. For want of a knowledge of the anatomy and physiology of the animal system, many mistakes occur, and ignorance necessarily follows with regard to disease, both of the human and all animals. Now I think it would puzzle this writer to explain how overflowing gall can affect the liver, cause those small animals called leeches, and the flow of blood outward or inward. The gall or bile has always been a terrible bugbear among mankind, from a want of a correct knowledge of anatomy and physiology. The gall or bile is a natural, necessary and constant secretion from the liver. It is a natural, necessary and constant purgative and corrective of the bowels, a want of which produces costiveness, and a superabundance of which produces purgations, diarrhoea and dysentery. In the animal I lost, there was not the slightest mark of extension or overflowing thereof. It was as usual. Now, some questions occur with regard to the phenomena presented in this complaint. How came the bowels filled with blood? How came blood discharged from the bladder? How came the blood transfused throughout the liver, and the coats of the stomach facing it? How came the leeches in the liver? I will commence my explanation of the last, first: which is, that the eggs of the leech had been imbibed with water during the preceding fall, by the ani-

mal drinking from some puddle on my farm, as the leech is common here; the eggs, transmitted through the circulating medium, were deposited in the liver and perhaps kidney, there remaining until they grew to their full size, when, fixing upon the blood vessels, they cut and pierced them, by which means the blood flowed through the gall duct or tube to the bowels; and as some of the vessels of the liver are large, the animal thus in fact bled to death. Sometimes, probably, the animal does not die so suddenly, and the blood is not discharged externally, which may arise from the leech cutting the smaller vessels only, which causes the blood to be transfused more internally through the coats and membranes of the different organs, giving them a dark and bruised appearance. The same thing I think must have occurred in the kidneys, although I did not detect any leeches therein. So that, in fact, gentlemen, this disease is no disease at all, but simply the opening of a blood vessel, producing death by hemorrhage. Below I give some extracts from the Comparative Anatomy and Regne Animal (animal kingdom) of Cuvier, who may be considered as having been the first and greatest writer on this branch of science the world has yet produced, and a branch which by no means ought to be omitted to be taught in any agricultural school, many of which I hope to see established in our country. From my view of this complaint, no cure is to be expected, although, probably, the preventive of salt and ashes pointed out by Mr. Warner, may act favorably, by destroying the leech or the egg. J. BAXTER, M. D.

Miller, Knox Co. Ohio.

"We have now come to nearly the most complicated stomachs with which we are acquainted, that is to say, those of ruminants, (animals that chew the cud.) They are similar, with small differences, in horned ruminants, which have four stomachs very distinct. The first of these stomachs, called the paunch, rumen or fold, is very large; it occupies a large part of the abdomen, particularly on the left side. To the right of the oesophagus, (gullet), and on the part of the paunch, is found the second stomach, or the cap, the smallest of the four, and which appears only at first sight, but an appendage to the first; it touches in front the tendinous center of the diaphragm midriff. Then comes the manifold or leaf, which is the third for situation and size; it is placed on the right side of the paunch, behind the liver. The oesophagus is inserted into the part of the paunch which is most to the right, and communicates, at the same time, by means of a gutter, which we shall describe presently, with the cap and manifold. The third stomach is distinct from the second and fourth, by very sensible contractions; it is globular, while the last is long. This, named the fourth ventricle, is the second for size; its situation is likewise to the right of the paunch, and a small portion under the manifold. It communicates with the latter by a very straight opening, and opens into the gut by a second orifice, which corresponds to the pylorus of simple stomachs. The membranes of these four stomachs present remarkable differences, particularly internally. In the paunch of the ox, it has its internal surface covered, for the most part, with large and flat papilla, the size of which is very different. Larger at the bottom of the sacks, they diminish in approaching the edges, and disappear on the folds which separate them, and on all the opposite surface which is split in fine creases, presenting a species of lozenges. This surface throughout, without excepting the papilla, is covered with a fine skin, epiderm, which is raised easily in large portions, preserving the molds of the papilla, and is distinguished by its yellow color from the internal membrane, which is white, confounded with the cellular, and adherent to the muscular. This is very thick, particularly in the folds which divide the paunch into sacks.

"In the cap the internal membrane has folds indented on their sides, notched on their edges, forming polygonal meshes, the areas of which are stuck over with papilla, finer, but analogous to those of the paunch. This membrane is whitish, as in the first stomach, covered with a similar epiderm, confounded with the cellular, adherent to the muscular, and without mucous on the internal surface. The muscular membrane is generally thicker in the cap than in the paunch; its thickness is, however, greater in some places of the latter.

"The manifold, has, as its name indicates, its cavity divided by large folds, (or leaves,) formed by the internal membrane, the surface of which is stuck over with small papilla, like grains of millet, and covered with a very small epiderm, and which is raised in large parcels, as in the two first stomachs. The walls of this stomach are much thinner than those of the two first.

"It is only in the fourth stomach that the internal membrane appears of a mucous nature, and lubricated with abundant mucosities. It had large folds, at first longitudinal, then irregular, after a previous contraction, separating the first part from a sort of gut, which terminates this fourth stomach, and in which this membrane augments in thickness, as well as the muscular. This last is besides still thinner in the fourth stomach than in the manifold. The orifice which communicates from the manifold to the fourth stomach has a valvular edge; the lower orifice none.

"The name of ruminants indicates the singular property of these animals to chew a second time the aliments which they return to the mouth after the first swallowing, a property which arises from the form of their stomachs. They have always four, the three first of which are disposed so that the food may enter at will into one of the three, because the gullet terminates at the point of communication. The first and largest, the paunch, receives in mass the fodder coarsely bruised by a first mastication or chewing; it is passed into the second, called the cap, the walls of which have coats similar to the comb of bees. This stomach, very small and globular, takes the fodder, soaks it and compresses it into small balls, (cuds) which successively ascend to the mouth to be there chewed. The animal remains at rest for this operation, which is continued until all the fodder at first swallowed to the paunch, undergoes it. The food thus chewed, descends directly into the third stomach called the manifold, because its coats have longitudinal folds like the leaves of a book, and from there into the fourth stomach, the coats of which have only wrinkles, and which is the true organ of digestion, similar to the simple stomach of ordinary animals. While ruminants suck and



only live on milk, the fourth is the largest of the stomachs, (the rumen.) The paunch is not developed, nor takes its enormous volume but in proportion as it receives fodder."

#### PEACH TREES.

Some ten years past I came in possession of a number of peach trees that had been good bearers, and arrived at the age of twenty years. In the course of each winter previous, a layer of straw or chip dung was strewed around each tree, upon a body of snow or while the ground was frozen. The object was to retain the frost as long as possible, to prevent the flow of sap; a slight freeze after the buds begin to swell will kill the twigs, and frequently the tree.

#### Cleaning Window Blinds.

Soap or strong soap suds will destroy green paint more readily than other colors; the lie has the same effect on oil paints that it has with grease. I have seen many painted rooms soiled by the carelessness or ignorance of wash-women, in the application of soap or strong soap water; when it does not destroy the paint, it may affect the luster.

#### Painting.

Spirits of turpentine is in most cases used in mixture with paints, because it facilitates the drying rapidly. It decomposes and destroys the vitality of the oil; it should never be used when durability and luster is required. I have been in the practice of painting my out buildings with pure oil, mixed without boiling, and am satisfied that it is more durable; the drying process is not so rapid, but the coat is harder and more adhesive, and less expensive. S. W. JEWETT.

Weybridge, Vt. May 16, 1840.

#### Experiment in Feeding the Sugar Beet.

MESSES. GAYLORD & TUCKER—I have now finished the feeding of some fifty tons of French Sugar Beet, and as a knowledge of the result of my experience may be interesting to others, I am induced to communicate it, should you think proper to give it a place, through the medium of your most interesting and instructive periodical.

From the decided fondness for this root by hogs, I was induced to believe it would make a very good article on which to feed and winter them. So I early procured 22 hogs and pigs; five of them I put up the 17th of September, intending to fatten them, as far as practicable, with beets exclusively. I washed and boiled the beets, and fed them profusely for two weeks. The hogs devoured them most ravenously, but on making a careful examination at the end of this time, to ascertain the progress I had made in fattening them, I learned to my surprise, that they evidently had gained nothing—only large sow put on an appearance so wo-begone, that I induced a charitable friend to take her off my hands free gratis. I then added a peck of potatoes to a bushel of beets, boiled and fed them another two weeks, during which time an improvement had been made, but it was barely perceptible. I now boiled my beets and potatoes in equal quantities, and fed one month, during which time they had improved, probably about as much as the potatoes would have improved them alone. I had now satisfied myself that the French Sugar Beet was not adapted to the purpose of making pork, so I stopped the use of it, and by substituting corn, I was induced at the end of the year, to slaughter some of the poorest hogs I ever killed. This condition of my hogs, was readily explained, for I had lost two of the best months for fattening them. I had now 17 hogs left, including two beautiful Berkshires, of full blood, had from my friend of the Three Hills Farm. As I had provided little else than beets for their sustenance, and as I had determined to give the root a full trial, I continued to feed them, adding corn and bran as seemed indispensable, through the winter. This spring I have 14 left, having lost three during the winter, all of which, except the two Berkshires, miserably poor. These Berkshires, without, to my knowledge, having fared better than the rest, have not apparently suffered at all, but are in fine condition. I attribute this in some measure to their domineering spirit, and to their greater industry, for they are intolerable monopolists, and in perpetual action.

My cattle, including three milch cows, at the commencement of winter, were in very fine condition, and I concluded to give them a profusion of beets, and restrict them otherwise to the use of corn fodder and straw. Up to the first of February, we had a flood of very rich and finely flavored milk, but the condition of my whole stock, was evidently a bad one; and this spring I have a miserably lean stock of cattle. I calculated to give each animal three pecks of beets per day, which was not often, if at all, neglected. To one cow, designed for slaughter, I fed some forty bushels of beets, in thirty days, and this, without making any perceptible improvement in the condition of the animal.

As I was much disappointed in my results, I was led to inquire into the cause; and a little consideration I think, seems to explain it. Starch, in some combination or other, with other matter, seems to constitute the most abundant source from which animals derive their flesh; those substances which yield it most abundantly, being best adapted to fattening them. Rice, one of the most nutritious substances of the vegetable world, yields 85 per cent of starch; corn, which is scarcely inferior to it in fattening qualities, gives 70 per cent, whilst potatoes, so well known and so highly appreciated, yield 16 per cent, and when divested of their skin and mois-

ture, give the surprising quantity of 51 per cent. As these substances give very little else than woody matter, it may be safely inferred that starch constitutes almost exclusively the basis of their nutritive properties. The French Sugar Beet gives 85 per cent of water, 10 per cent of sugar, and 5 per cent of woody matter and mucilage, and no starch. I will not pretend that sugar is destitute of nutritive powers, but that substances abounding in starch will be found far superior to those containing sugar only. The beet may have a salutary effect on the health of animals, and when a plenty of substantial food is fed with it, it may be productive of good effects. Its use, however, as an article of food for feeding animals, must be restricted mostly to that of promoting a full flow of rich milk in cows, otherways in good order, and well fed.

If the sugar beet should be much cultivated in this country, I suspect it will be for the purposes of distillation. From many experiments, I am satisfied that with no other vegetable can an acre be cultivated, that will yield so much spirits.

Much has been said about cultivating beets in this country, for the purpose of making sugar, particularly cultivating them in the western prairies. To any person contemplating an operation of this kind, I would suggest to him the probable, and perhaps the insuperable difficulty of obtaining, only in the immediate vicinity of large towns, such quantities of animal carbon, as would be absolutely necessary for its clarification.

I wish to add a few remarks on one or two other subjects, and you will use them as you please.

#### Transplanting Grafted Fruit Trees.

Which is the best season, spring or fall, in which to transplant grafted fruit trees? In the fall of 1838, I bought of Judge Buel, at Albany, one hundred grafted fruit trees, apple, pear, and cherry. These were received in good time, and duly transplanted, about the last of October, in good soil. Nearly every tree lived from the place where the scions had been inserted, downwards; but ninety-three of the grafts died, giving a very discouraging result. Had the trees been allowed to stand until spring, probably not one of the grafts would have died, and they might have been removed successfully. The trees were small, and the connection between the scion and stock had not been sufficiently matured to enable the graft to sustain the double shock of removal and exposure to a hard winter. May not a useful rule be deduced from this example—that is, so long as good reason exists to believe, time enough has not been given to establish a well knit connection between the graft and stock, that grafted trees should not be transplanted in the fall? An adherence to such a rule would have saved me the loss of some money, much trouble, and a galling disappointment.

#### China Tree Corn.

I planted, last spring in Sackett's Harbor, north lat. 44, eighteen square rods of China Tree Corn, in an open exposure, on sandy loam—the green sward well manured with long manure, and well torn to pieces. The growth was enormous, and when the first frost came, 5th of October, I estimated the product, and made it equal to 106 bushels per acre; one half of which, is good seed corn, the residue was excellent corn for boiling, and for early hog feed. I believe I am alone in this neighborhood, in my success, for I do not know of any one else who succeeded in ripening it. So great was the growth of stalk, and so abundant the product, that I am determined to plant at least one acre this year, believing that the value of the fodder and the value of the ears in milk alone, will give me a handsome profit. I think that hogs may be fed with the corn in the milk, and be made by it to thrive beyond what can be done with any other substance. Probably one month may be had for this purpose, before frost, and I will stand a chance of getting more good sound corn, than from any other varieties.

Mr. Thorburn has my thanks for introducing this excellent article, and when its merits and its demerits are well understood, I believe he will have the thanks of thousands of others, as a public benefactor.

Most respectfully yours,

SAMUEL GUTHRIE.

Sackett's Harbor. N. Y. May 2, 1840.

#### SOUTH DOWN SHEEP.

MESSES. EDITORS—In perusing the useful and widely circulated paper, the Cultivator, I observed a letter to J. Buel, in the March number of 1839, wherein Mr. Wm. Ellman states, he doubts whether the sheep imported into this country are pure blooded South Downs. For the last five years I have been an importer of pure blooded South Downs, and have visited England every year, and selected from some of the most celebrated flocks in Sussex, and it is well known to men in Sussex, and others who visit that part of the country, who are judges of South Down sheep, that there are many gentlemen who have as pure and as good sheep as the Mr. Ellmans. Mr. Ellman says, his brothers defy all Europe to show South Down sheep equal to them. If you will refer to the accounts of the great stock show at Oxford, last July, you will perceive that Mr. Ellman's South Down sheep did not stand even first or second there; the show of South Downs there was very fine from the flocks of Mr. Ellman, and others, and the premiums given for the best to some of Mr. Ellman's neighbors, not only proving their sheep to be equal but superior, and I defy either of the Mr. Ellmans to produce

purser or better South Down sheep than those I have imported.

You will perceive by a letter of Mr. Thomas Ellman, which I send you, that he has been often sending out South Down sheep to this country; I cannot think he would send impure sheep.

In October last, I saw Mr. Wm. Ellman, in London, England; I questioned him respecting the letter to J. Buel, which appeared in the Cultivator, respecting South Down sheep; he owned it to be his, with this remark, "he must puff a little."

Gentleman, I am sorry that any puffing should appear in your useful work, to prejudice the minds of those who are not judges of those valuable sheep. I am fully convinced, that there is no sheep so well adapted for the American climate; as they are of a hardy constitution, they can endure the heat and cold better than any sheep I have ever seen; I have kept a flock of them for some years. In England the South Downs stand preëminent, and I have no doubt but they will here, when better known.

I should have noticed Mr. E's. letter before, but I was traveling through England, selecting stock for the western states, at the time it appeared in the Cultivator, and I am much pleased to say, that I sent a number of imported pure South Downs into the states of Tennessee, Kentucky, Ohio and Illinois.

Yours respectfully,

JAMES BAGG.

Montgomery, Orange co. Mo., 1840.

#### IMPORTATION OF STOCK.

MESSES. GAYLORD & TUCKER—Having the subject of agriculture very much at heart, induces me to notice any particular that will tend to promote its improvement, which was my object in going to England to select some of the best stock I could find, and my judgment capable. Whether I have succeeded in my undertaking, is a matter to be decided by good judges, to whom I will cheerfully submit my choice, for inspection and criticism; though I very much regret having lost my best ewe on the voyage; fatness was the cause of her death. When opened, we found two fine ram lambs, within a few days of birth, and I may safely say her carcass weighed twenty-five pounds. This ewe was shown at the Royal Agricultural Society, with her lamb, in July last, when most of the breeders exhibited, and all England entitled to do so by becoming members; she won the first prize. We have some of her descendants, with twenty-one ewes and three rams from the same flock. The breeder, Mr. Hewer, of Northleach, Gloucestershire, had a wether teg, killed at fifteen months old, that weighed 43½ lbs. per quarter. It is as well to remark, that this sheep was weighed without the caul, which would have added full 25 lbs. more to the whole carcass; according to American custom, would have weighed 199 lbs. This teg was fed on nothing else but hay and turneps, and it is my opinion they are more easily kept than any other breed, according to the weight they produce.

The Messrs. Wm. & Joseph Hewer's annual sale of 60 shearhog rams, has averaged for the past ten years, from £15 15s. to £17 17s. 6d. (\$75 to \$80), each. One sheep sold last year, for £34 10s., and the purchaser refused 100 guineas (\$500,) the same day. This is proof positive of the value of this flock.

It is my intention to go to England again in the Great Western, on the 1st of July, to be at Messrs. Hewer's ram sale; and whoever wishes to procure one of these valuable animals, may be accommodated, by stating the kind they wish, and the highest price they will give in New-York, to Erastus Corning, Esq. of Albany, or writing to me at Mr. Wm. Hewer's, Northleach, Gloucestershire, England, who has promised to sell me all his extra ewes yearly.

Of our cattle, I shall not say more than that they are of the Hereford breed, and from the same breeder, who agrees with me, that Herefords are decidedly the best and most profitable, when taken in the aggregate. The Smithfield show will acknowledge this, as the Herefords took the top prize against all others.

Other instances are in their favor; the oxen are excellent workers, the best feeders, and when in market, fetch one half-penny per pound more than the Durhams, the fat and lean is so well interlarded. This assertion is backed by most of the London butchers, of whom I made inquiry, and I send you a letter for insertion, from Mr. Gurrier to me, one of the first salesmen in London, who presented me with an engraving of the prize ox in 1837, the property of Mr. John Thomas Smith, Portland, Lincolnshire. This ox obtained the first prize of 15 sovereigns, at the Rutland Agricultural Society's show, at Oakham. Also, at Smithfield Club show, the first prize of 20 sovereigns, in class first. Age of this ox, four years and two months—weight 122 stone, 14 lbs. to the stone—bred by Mr. John Hewer of Hereford. It is my opinion that Herefords are better milkers than generally represented. It is not clear to me that they are inferior to the Short Horn or Durham. When our cows come to grass, I will endeavor to give the quantity; appearances on the vessel are much in their favor. I will not say more on this subject until we have some for sale; these are intended for our own use.

Should it meet the views of improving, intelligent, enterprising farmers, such as know how to lay out their money judiciously, we have no objection to enter into a trade with Mr. Hewer, to take the whole of his extra stock yearly, who says no other person shall have them for exportation. Any other breed of the first order, or any kind of animal England can produce, I will endeavor to procure, by the purchaser representing it to me, and the highest price he will give in New-York, or any kind of field or garden needs. But I must admonish the purchas-

ers, to show a little spirit, not to be afraid of their shadow in a good cause; the best things in the world cannot be bought at low prices; the expense and risk of shipping is very heavy, and not a very pleasant business for a "sea-sick sailor."

I have bought all kinds of seed grain of the best sorts, and shall be much gratified to share them with our friends. The Whittington wheat is not much liked there; the best farmers say the straw is very rotten, the ears uneven, and the flour of a weak nature; I have brought a little for trial, thinking climate might change it. Brown's Prolific is a new sort lately introduced and much approved. The Talavera is an excellent quality. The white Bullstrout is very fine; but the old red Lammars, of long standing, is more generally liked, the most certain, and considered the most productive. I have all these kinds, with a little of many others. The Potato oats, the Caspian, the Waterloo, the Dutch, the Poland and the Tartar; the Chevalier barley, the Moldavia, and the different kinds of early; all kinds of grass and garden seeds, most kinds of turnep, ruta baga and potato, as good as England can produce. We shall have much pleasure in distributing them, when we know their results in a different climate, so that the enterprising may have no excuse to stray from the improvement of their country, that requires nothing else but good husbandry.

I am further of opinion, that the substantial English cart horse would be a very great benefit to this country. A good, strong, steady team, with a heavy plow behind it, would do its work effectually, while a trotting, flitting, jumping, baulky one, with a light plow, will skip over much soil, and leave the weeds growing. The observing traveler proves this daily, by "ocular demonstration;" the pernicious weeds skipped by bad plowing, shoot forth without a check, and, like the thorns, "spring up and choke the grain," impoverishing the soil much more. Another thing the same traveler notices: the manure lying in the yard of the thoughtless farmers, while their sons are gadding about the country with their trotting horses. If they owned the steady steed, he would always have a load behind him; he is a business horse, and cannot be put out of his place by folly, and their sons would be engaged in usefulness, drawing out their most profitable article.

Farmers, look at this and meditate; and if your views meet mine, I will endeavor to procure the animals.

Another idea strikes me, that farmers have a very anxious desire to put out money on interest, at six or seven per cent, while, if judiciously applied on their own soil and stock, it would pay full double the amount in better security and substantial credit; if the former will produce a double quantity, with proper management, it is enhanced in value accordingly. If the latter are supported with less provender, and sold at 200 per cent higher prices, to the satisfaction of the purchasers, it is clear proof of the advantage derived, without reference to the supposed extravagance of the original cost of approved sires and dams. Nothing but the most rigid judgment will sanction an extraordinary price. This I consider a subject that will bear the close investigation of enlightened farmers.

I cannot finish this letter without referring you to the worthy sire of the Hower family, Mr. Wm. Hower, sen'r, Northleach, who I consider one of the best farmers England contains, and one of the best of men. He has never been led astray by fashion, or the foibles and follies of the gay and the great, but kept the standard of mediocrity, and pursued and maintained its usefulness. I may say with confidence that no man has done more real good for his country, or brought up a family with more credit; his honor has never been tarnished, and I think I may say without fear of contradiction, that his character is without a stain. He has excelled in good judgment in stock, to great perfection, selected his sires and dams with the most considered care and attention, without reference to price, when the animal suited; he well knew the deficient points and quality he wanted to improve, and made his crosses with true science; by this principle he has established himself at the head of breeders, and has kept them longer than any other man in the country. To improve a bad flock is not difficult, but when bordering on purity, it requires the most accurate examination, and is one of the most difficult situations in the world, to avoid degeneration. Mr. Hower has maintained this standard sufficiently long to be a pattern to farmers, an example to all, and deserves as high a station in society as a nation can offer. When a tenant, his system of farming was pursued with the nicest accuracy; his soil was never impoverished, but every thing turned to the best advantage. He hired good laborers, and paid them well for their services; although he employed a great number, they were all placed in a situation where their toil would refund the outlay. Penurious farmers thought him extravagant, but he pursued his course with true economy; his judgment paid him ample interest. He was a mark of the highest respect in his parish, and universally beloved by all who knew him. He is now landlord of his own soil—400 acres—which he purchased seven years since, in the most slowly and impoverished condition, in the 60th year of his age. He has three sons in business near him—the eldest under Lord Sherborne, &c. 500 acres; the second, under the same landlord, had 400 acres—the third, under himself, 150 acres, with a mill. I think I may safely challenge the world to show four farms in one family, under a better state of cultivation; or even one to compare in stock with either of the three former. Give America such farmers as these, and no nation in the world can compare with it.

I send you a paper with an advertisement, showing the Queen at the head of an agricultural society, with an anxious

wish that the heads of America will follow the good and noble example she has patronized. It is my opinion that Agricultural Societies are the first props for improvement. Could we be able to establish one in each county, with a right spirit and a firm principle, it would have the desired effect on all.

I send you a short treatise on the epidemic among cattle, &c. presented to me by one of the members of the Royal Agricultural Society; if you are disposed to publish it, it is at your option.

These ideas are from my own observation and practice, and I hope they will be received with the same good feeling as they are issued. My former ideas on the Cotswold sheep, were known in the September number of the Cultivator, 1836, on sheep husbandry, signed "A Subscriber." I then gave my ideas on the different breeds, and am sorry to say, it did not meet with the views of the Merino and Saxony breeders; it was not my intention to deter those from breeding, but to prove the benefit of their breeds. I did not then answer "The Wool Grower," or Mr. Grove, but met the latter at the State Society in Albany, where we talked the matter over amicably, and I believe him to be, from his conversation, a scientific breeder, and hope his breed will answer his expectations fully, as fine wool is wanted, and in some instances, may be profitable.

Let us all endeavor to get the best breeds of all kinds, and we shall not want to advocate a forced market, or strive for good reputation, without deserving it. We must not sanction the idea, that gold and silver alone constitutes wealth, but good stock and good land, well cultivated, with industrious undertakings, well understood and relished; and banish from the mind all sluggish inactivity; by this we shall be able to establish our object, distinguish the name of farmers as we ought to do, and let it be practically realized; it is the only true way to happiness, prosperity, and distinction; and allow me to make a remark which is as certain as death, that no land can be kept in a good state of cultivation, without a sufficient quantity of sheep and cattle. The former is a remarkable rich manure, and I think folding sheep in this country, in the autumn, is too useful a branch of husbandry to neglect.

Yours, most sincerely,

WM. H. Y. SOTHAM.

N. B. It is useless for any person to apply for any kind of animal but those of the first quality. I have firmly resolved to import nothing less. The only way to arrive at superiority, is to begin right and continue so.

Perch Lake, Jefferson Co. N. Y. June 1, 1840

The following are the pedigrees of the beasts and sheep sold by me this day, April 10th, 1840, to Wm. H. Sotham, Perch Lake Farm, Jefferson County, New-York, North America:

1. An 8 year old cow, Lumpy, was sired by Nelson, dam by Panic, grand dam by Alpha. Nelson's sire was by Trojan, dam, Bloomy, grand dam, old Bloomy.
  2. A five year old cow, Gay, and bull calf, Sir George. Gay sired by Noble, which was sired by Sovereign, that sired Cotmore, which won the prize at Oxford Royal Agricultural Society, 1839, and is admitted by all breeders to have sired more prize beasts than any other in the county of Hereford. Dam by Conqueror, grand dam Spot, by Alpha; Alpha by Trojan, the owner of which offered to show against any bull in England, for a thousand pounds, and was not accepted.
  3. Young Sir George, by a son of Sir George that won the prize at Hereford, for the best aged bull.
  4. Four year old cow, Maria and calf, by Young Favorite by a son of Alpha, dam by Noble.
  5. Calf Matilda by Major, which won the prize at Hereford, with his dam and sire, for the best bull, cow and offspring, Oct. 1837, and the prize for the best yearling, 1838.
  6. Yearling Victoria, by Major, dam by Favorite, Favorite, by a son of Alpha.
  7. Bull calf Young Major by Major, dam by Young Favorite.
  8. Two year old Aston Beauty, by a son of Old Sovereign; dam by Fitz Favorite, which won the prize at Cirencester show.
  9. Two year old Spot, by Sir George, dam Gay.
  10. Two year old Nancy, by Sir George.
  11. One year old Cherry, by a son of Sir George, dam Lumpy.
  12. One year old Flora, by son of Sir George, dam by Noble, grand dam, Mr. Hower's old bull, son of Alpha.
- Three ram sheep, eleven ewes and lambs, and one ewe teg, all descended from the well known rams, old Grey and Rumpy. The former was allowed by the most competent judges, to be the best sheep they had ever seen. The five ewes with their lambs, shown at the Royal English Agricultural Society, Oxford, were the only sheep ever shown by Mr. Hower, and won the prize. The one of the five Mr. H. Sotham has purchased, is the largest, but not the fattest; if any man in England could have beaten these sheep, they would have shown against them.

We hereby certify that the above statement is correct.

W. & JOS. HEWER.

Northleach, Gloucestershire.

Mr. Guerrier's Letter.

London and West Smithfield, 17th April, 1840.

DEAR SIR—As I could not conveniently, during the busy engagements of our market, reply to your inquiry respecting the breeds of Durham and Hereford cattle, I take this opportunity to state, that during 20 years experience as a salesman of cattle of all breeds, in this mar-

ket, (Smithfield,) although I have time without number, when I have had some of the best descriptions of Durhams to sell, could I succeed in persuading my best customers at the west end of London, to purchase Durhams when I had any well bred Herefords to part with; they one and all stated, in cutting up the beef, they find so much more roasting beef, to that of boiling. To satisfy your mind still farther, just cast your eye over the particulars (which I send for your perusal) of our last Christmas Show of cattle. There you will perceive the Hereford takes the top prize. Attend our Smithfield Show, and you would be more than ever assured of the importance of the best breed of Herefords, before that of Durhams. Last Christmas, I had Durhams 15 stone per ox heavier than Herefords, but could not realize so much by 4d. per stone of 8 lbs. as I could for the Herefords.

I am glad to find you are about to take some Cotswold sheep out with you. I think if I mistake not, they are some of Mr. Hower's breed, of Northleach. My father, 16 or 17 years past, grazed 3 of Mr. H's. two shear sheep, which I sold to a butcher to slaughter, at £10 per sheep. I think you will find, speaking as a breeder and grazer of cattle, the Hereford are much less trouble, and particularly quick feeding stock.

Wishing you success in your undertaking,  
I am sir, yours respectfully,  
WILLIAM GUERRIER.

W. H. SOTHAM.

N. B. I need not observe to you, the remarks I have made regarding Herefords, are not because I am at all prejudiced against Durhams, Scotts or other breeds, but having with my father grazed all breeds, for many years, and as a salesman, having for 20 years past, during which time I have annually sold from 5 to 10 thousand cattle, consisting of all breeds, from Ireland, Scotland, as also in this Kingdom, I never found any breed of cattle more profitable than the said Herefords, if well bred.

#### MANAGEMENT OF PIGS.

MESSRS. GAYLORD & TUCKER—The management of fine bred pigs is eliciting more attention at this day throughout this country and England, than at any former period. All the essays I have noticed on the subject have passed very indefinitely over what I conceive to be the most difficult period of the animal's existence, and one through which he seldom or never carries all his good points—which is that of leaving the sow.

The cause appears to me to be this: sows' milk is much more rich and nutritious than cows', consequently little action or concoction of the stomach previous to being carried into the circulation is required; for indeed swine being carnivorous by nature, possess at all times very weak digestive powers; the pig being taken from the sow or weaned by her, large quantities of cows' milk is almost invariably given as a substitute, perhaps three times per day. The large quantity nearly paralyzes the little digestive powers the pig previously possessed; consequently his belly becomes distended far beyond its wonted size, assuming a disgusting blowdy or bellows-like appearance; he grows poor, his shoulders contract, his rump becomes peaked, his back settles down back of his shoulder blades, and then rounds up something like a hedge hog's, and to finish the picture, his hair is no longer brilliant and glossy, but dry, crumbling and dead, and often turning the other way; not a vestige of that clean cylindrical form, which never fails to elicit admiration, where beauty has any attraction, remains, nor does he ever effectually recover. Blood and pedigree are no guards against this. I would hazard a few suggestions as a remedy, not that I conceive them to be unexceptionable, but that they may be the means of drawing forth some that are, from Messrs. Lossing, Bement or Allen, or any other talented gentlemen engaged in the cultivation of "the noble animal."

I would have the pig well accustomed to the trough before weaning, in a place shut off from the interference of his mother; I would feed him four or five times per day with boiled rice, and boiled potatoes mashed, alternately, adding a little milk from a new milch cow, all to be given in very small quantities, with trough kept clean; small quantities of beever's liver, have a fine effect in yielding nourishment profusely, is easy of digestion, without distending the belly unusually; sheep's plucks are good, but should be boiled.

No pig should be taken from its mother while she gives any milk at all; but in cases where it is unavoidable, it should be done by degrees, the pig left to suck perhaps once a day for some days with the above mentioned feeding.

Much blame has been attributed to the breed or blood, where the management has alone been at fault; I have witnessed so many disastrous effects from taking pigs abruptly from the sow and sending them on a long fatiguing voyage, that I have resolved that no pig shall go from me until it has passed the ordeal of weaning. No valuable pigs should be sent any distance without some interested person to attend them, who has had some experience in their management.

There is another source which has often proved fatal to whole litters of pigs, which is that of interfering with the sows at the time of their littering; the sow should have her litter at the place of her own choosing; it is the only place at which she will be at home; it is idle to suppose that dictation or interference of any kind can be of service to her; she is governed by an instinct infinitely surpassing human calculation on this point. I never interfere farther than to prevent all interference, and scarcely ever lost a pig.

Z. STANDISH.

Albany, June 25, 1840.



## ADDRESS,

*Delivered before the Horticultural Association of the Valley of the Hudson, at Niblo's Garden, in the City of New-York, September 13th, 1839, by WILLIAM EMERSON, Esq.*

MR. PRESIDENT AND GENTLEMEN—Did I regard only my own want of acquaintance with the subject which has united you together, I should have declined the honor of addressing you this evening; but having twice been called upon by you to perform this duty, on the second call I could not hesitate to forget all personal considerations, and to cast myself upon your indulgence, while I offer you some remarks on Horticulture, the object of our common regard.

Horticulture, or the business of gardening, is no trivial or visionary pursuit, but one which commends itself to the calm and respectful attention of every intelligent man. As an art, it is coextensive and coeval with human civilization. So long as men roam at large, pitching their tents now here, now there, as some green spot may invite their stay, they are mere barbarians; but when the rude Arab or fierce Tartar first plants a palm, or scatters a few grains of wheat, and is content to abide in the chosen spot till his family gather the dates, and grind the corn, then has the civilization of his tribe begun. In the beautiful picture which the pencil of the sacred historian has drawn, of the earliest scene in the education which Providence vouchsafed to man, the human pair are represented in a garden, filled with rich and tempting fruit, and watered by pleasant streams; and when they transgressed the command that was laid upon them, the severest part of their punishment was, that they were banished from Eden, expressed with how much force and beauty by the English poet, in words uttered by the mouth of Eve:

"O, unexpected stroke! worse than of death,  
Must I thus leave thee, Paradise? thus leave  
Thee, native soil; these happy walks and shades,  
Fit haunt of gods! Where I had hoped to spend,  
Quiet, though sad, the respite of that day  
That must be mortal to us both! O, flowers,  
That never will in other climate grow,  
My early visitation, and my last!  
At even, which I bred up with tender hand  
From the first opening bud, and gave ye names,  
Who now shall rear ye to the sun, or rank  
Your tribes, and water from the ambrosial fount?  
How shall we breathe in other air,  
Less pure, accustomed to immortal fruits!"

I direct your attention to this ancient picture of the delights and loveliness of Paradise, so splendidly retouched and adorned by the genius of Milton, only as furnishing a striking illustration of the strong natural bias there is in mankind, toward horticulture; I say, in mankind, for it is not in one or a few nations only, that this inclination is observable; the earliest fables in all literature, are full of gay and gorgeous stories of pleasant gardens. The Greeks told of the garden of the Hesperides; these were young virgins, living on a distant island of the western ocean, guarding trees loaded with golden apples, and so valuable was this precious fruit, that the damsels were aided in their charge by a hundred headed dragon. It was one of the labors of the mighty Hercules to bring away this costly fruit; he killed the dragon, and the fair gardeners fled, on which the hero seized the apples, and brought them to his task-master. Other stories record, that these tempting apples were presented by the Earth to Juno, the mother of the gods, on her nuptials with Jupiter, and afterwards adorned her gardens. Another story tells that three of these very apples were dropped by Hippomenes, on finding that the beautiful and fleet-footed Atalanta was gaining on him in the race, and while the fair one stooped to secure the tempting fruit, Hippomenes reached the goal.

Ancient historians dwell with enthusiasm on the marvels of the hanging gardens of Babylon, which are said to have been massive piles of architecture, adorned with the rarest and most beautiful plants, and which presented to the eye of a distant observer, the appearance of lofty pyramids of trees. They were counted among the wonders of the world.

The Romans, when they became the masters of the world, indulged their taste in the most beautiful and sumptuous gardens, where nature and art vied with each other in delighting the beholder.

In those fanciful narratives, the Arabian Nights' Entertainments, we have the most lively descriptions of gardens filled with trees, whose branches were loaded, not with common apples and figs, but with precious stones, of the size of the finest fruits, glittering with all the hues of the rainbow. Besides the fables of these costly fruits, which even the most craving would not wish to grow on every tree, other stories occur, of all that is attractive and pleasing in a well planned garden, in those soft climates where the orange, the myrtle, and the olive abound. Indeed all poetry and all literature are full of the beauties and delights of the garden. Boccaccio, Chaucer, Ariosto, Tasso and Milton, no less than Homer and Virgil, dilate in eloquent prose or verse, on the charms of the garden, and confirm the truth of the remark, that a taste for horticulture, is universal among civilized men. For the greatest poets and philosophers are but voices which utter the common sentiments of mankind; and when the ancient poets describe the calm enjoyments of departed spirits in the fields and groves of Elysium; or when Mahomet tells of the pleasures in store for the faithful among the cool shades and sparkling fountains of Paradise, what do they but speak to the universal taste? And why is the love of a garden common to all men? Because, first, gardening is a useful pursuit; it ministers to the daily necessities of

life; it supplies, and that bountifully, those comforts and luxuries which the savage does without, but which are now commonly enjoyed by every civilized nation. It gathers from every clime whatever vegetable substance is or may be by cultivation become nutritious or palatable to man or beast; it acclimates them in almost every region, from Petersburg to the Cape of Good Hope, and so supplies wholesome food, suited, each in its kind, to old and young, to the hearty and the delicate, the well and the sick, and to each domestic animal that depends on man for nourishment. For these ends, the apple and the pear, the currant and the gooseberry, have been brought out from the European forests, and softened and multiplied, and varied into the thousand different species we possess; the Roman generals are believed, in their triumphal march from conquered Asia, to have introduced the cherry from Pontus; the plum from Syria; the peach and the grape from Persia; the quince came from the woody island of Crete; and melons are supposed to have come originally from eastern Asia. Of the vegetables which require some preparation before they are fit for food, the pea is thought to be a native of southern Europe, and the bean of Egypt; the turnep and the cabbage tribes are supposed to have originated in northern Europe; the carrot and parsnip are indigenous in Great Britain, while the beet was first found on the shores of the Mediterranean; asparagus is a native of the damp soil of northern Poland and Russia; the onion is commonly supposed to be the growth of Spain; squashes and pumpkins, or (as English writers generally class them,) gourds and pumpions, and cucumbers also, were brought from the far east; Africa has furnished us with the egg-plant; and our own continent claims two vegetables among those in daily use, which will probably yield to no other two in value, the potato and the tomato.

From these few articles which have been mentioned, out of the long list of garden productions, it may be seen how untiring have been the perseverance and the research devoted to find out, and to appropriate, whatever in the botanical kingdom could be made subservient to animal life. This is the gardener's peculiar province, and as it is his object to increase the number, variety and excellence of edible plants, and so to promote the health and lengthen the life of man, and of his brute servants, his occupation may rightly claim to be classed among the most useful of human pursuits.

Another cause of the universal love of gardens is, that horticulture is an innocent and rational pursuit. In some of the occupations that men engage in, how many dark passions break forth! How much strife and selfish ambition are continually exhibited! The occupations of the garden, on the other hand, are peculiarly quiet and peaceful. I do not mean to say that those who devote themselves to horticulture, are exempt from human faults and passions. What I would say is, that this pursuit is one eminently gentle in its character, and is usually observed to have an ameliorating effect on those who follow it. They are aloof from the rancor of party politics, the bitterness of sectarians in theology or human science; from

"the vain low strife  
That makes men mad; the tug for wealth and power;  
The passions and the cares that wither life,  
And waste its little hour."

If they have any war of extermination to wage, it is not against their fellow men, but against some pestilent insect tribe; and the timely use of preventive means, will generally obviate a cruel destruction even of insect life. For the most part, he who occupies himself with horticulture, pursues, in quiet industry, the even tenor of an innocent and happy course, engaged in adding to the sum of the world's comforts and luxuries, while at the same time, all the genial influences of nature are dispensed upon him. The dome of the heavens is above him, and around are the woods and fields and waters, breathing their gentle fragrance upon him, and wafting the sweet music of singing birds into his senses. The work before him is suited to every capacity. To one who is contented to go on in the old paths, the daily care of the common fruits and flowers, is a pleasing and sufficient employment, while the most capacious memory may task itself without exhausting the stores of botanical and physiological science; and the utmost stretch of the inventive faculty may be usefully employed in discovering the habits of plants, the qualities of soils, the adaptation of each to the other, and the operation of the countless causes of fertility and barrenness, on the vegetable kingdom. Nay, by the process of hybridising, the horticulturist seems more nearly to approach to an exertion of creative power, than man achieves by any other employment of physical agents, of which I have any knowledge.

I need hardly say, that gardening is a healthful pursuit. While the operatives in manufacturing towns are confined for their whole lives to a monotonous occupation in crowded, stove-heated rooms, and very many among those who follow the mechanic trades, are shut up, with little respite, in narrow and ill ventilated shops, the horticulturist breathes the sweet pure air of heaven; if he is wise, the earliest blush of the morning glows on his cheek, and a course of constant labor, which is no task, but as it proceeds, is continually bestowing its reward, is ever encouraging his efforts, and diffusing a cheerful calm over his system. His frame invigorated by daily exercise in the open air; his mind animated by a generous emulation to excel in bringing out from nature's bosom her good gifts, and disciplined by inquiries and experiments eminently scientific, yet neither dry nor abstruse, the horticulturist, enjoying and diffusing enjoyment, lives on to a green old age, neither

broken in spirits by the fluctuations of business, nor enervated or diseased by the sedentary habits of city life. I confess, when I pass through the streets of this great city, where the senses are continually assailed by noisome vapors, I am filled with wonder that thousands, who are not necessarily and exclusively confined to the city, do not habitually escape from its crowded streets and stifling air as soon as the business of the day is done, and place themselves and their families in some pleasant cottage or stater mansion, as their taste or means shall dictate, where they might breathe the perfume of flowers, and the new mown hay, and look forth upon the beauty and majesty of nature. Happy will it be, not only for the health, but also for the morals and intellectual character of our fellow-citizens, when this practice shall become much more general than it is. Independently of the benefits resulting from the healthful labors of the garden, there is a sublimity and purity of thought, produced by the daily contemplation of natural scenery, which is highly favorable to the development of the best qualities of mind. He who habitually looks upon the starry, silent sky, on the dark waving woods, the silver line of the river, or the boundless expanse of the ocean, can hardly fail to be a wiser and better man than he who fritters away his golden moments among the frivolities of the promenade and the ball room.

The business of gardening, again, is a worthy and honorable pursuit. Many are there, high in the world's esteem, its princes and kings, who have devoted themselves, of their own accord, to the cultivation of a garden. The Roman Lucullus, after carrying the arms of the republic into the distant east, returned laden with spoil to Italy, and devoted his immense wealth to the formation of delightful and extensive gardens, on the promontory of Misernin, and there imitated, for the first time in Europe, the luxurious magnificence which eastern princes often lavish on their pleasure grounds. The ambition of the emperor Charles V. of Spain, for many years disturbed the peace of Europe; to the amazement of all the politicians, in the 56th year of his age, this powerful and energetic prince voluntarily resigned the sceptre of his vast dominions into the hands of his son, and retired on the income of a private gentleman, to a little valley in Estremadura, where his chief amusement was the cultivating of his garden with his own hands. We are so apt to be led away with the *prestige* of what is called a great example, that we might hastily imagine our favorite art was raised to higher consideration for being practiced by the self-same hands that had swayed the sceptre of both the Indies. But horticulture gains no importance from such examples. It is an honorable employment, not because the magnificent Lucullus lavished his eastern treasures on the elegant gardens of Baie, or because the historian Salust devoted his Numidian wealth to forming the most voluptuous pleasure grounds for the future emperors of Rome; not even because the eloquent Tully and the tasteful Pliny passed their elegant leisure in the gardens of their classic villas, or that the philosophic Bacon composed essays on the subject of gardening; still less do I call the gardener's an honorable employment, because the self-syled grandees of the earth, the princes and lords of all Christendom, and well nigh all heathendom, too, combine, with a remarkable unanimity, in the encouragement of this beautiful art; not for these things, but because it is an industrious and honest calling; because it tends to strengthen the body and ennoble the mind; because it enlarges the boundaries of science, and ministers to the life, health and comfort of man and beast; because it turns the desert into a scene of verdure, and beauty, and abundance. These things constitute the true importance of the gardener's art, and, in my humble judgment, the imperial Charles was more honorably, more respectably, employed in cultivating the little garden of the monks of St. Justus, than when he sat on the throne of Spain and Germany, and thousands of his fellow mortals were the annual victims of his ambition.

Thus, gentlemen, I have called your attention to the universal taste among civilized men for the art of gardening; and I have sought to account for this taste, by the usefulness of the art; by the innocent and rational nature of the employment; by its tendency to promote the health of the body and mind, and by the real dignity of the occupation. In conclusion, I beg leave to congratulate you, that you have united yourselves in pursuit of an object so worthy. The exhibition we have this day witnessed, is in the highest degree encouraging. It may be that New-York has been heretofore out-done in this department, by the zeal and science of Boston and Philadelphia; but I trust you will be efficient laborers in wiping away this reproach. The beautiful Valley of the Hudson, the theme of admiration abroad and at home, for the charming variety and beauty of its natural scenery—now swelling in graceful undulations—now rising in lofty sublimity to overlook our majestic river—the various, but for the most part genial, climate and fertile soil that we possess—ought surely to yield to no portion of our country, in the excellence of horticultural productions, or in the application of horticultural skill. He who causes two blades of grass to grow where but one grew before, and he, likewise, who produces a delicious peach or pear where neither grew before, may well be said to be a greater benefactor to his species, than all the conquerors whose names have sounded through the world. We may not expect that the fall of an apple will suggest to every man, as to the immortal Newton, a new theory of gravitation; but we may reasonably hope, by a careful observation of the natural phenomena around us, and a diligent application of natural powers to useful ends, to contribute our humble mite to the improvement and happiness of mankind.



## GAPES IN CHICKENS, &amp;c.

We have four communications on the management of chickens, relating principally to the cause, preventive and cure of the gapes. As we have not room for them all, we extract from each of them the most essential parts. "A Poulterer" inquires the cause, and asks for preventive and cure. He describes the disease as follows:—

"So far as my observation has extended, and from the information of others, I gather the following facts relative to the disease. Upon dissection there are found in the windpipe, several small red worms, varying in size and length—some half an inch and more in length. The heart, also, is much enlarged, quite soft and suffused with blood. It is supposed that these worms continue to increase in size, until the windpipe becomes completely filled up, and the chicken suffocates. The disease first shows itself when the chicken is between three and four weeks old, and not generally after, by causing a sneezing or snuffling through the nostrils, and a frequent scratching of itself at the roots of the bill. In two or three days it commences to droop and grow stupid, and at every breath raises its head and gapes, apparently for the want of breath. It thus continues for a week or ten days, when it dies, perfectly emaciated. The appetite continues good, and it will eat greedily so long as it lives. The disease is attended with much fever, so much so, that the end of the tongue becomes white, and so dry that it curls up."

From the communication of "N. S." of New- Windsor:—

"Can you give your readers any information as to the best methods for rearing chickens? I have taken a great deal of pains, but have invariably been but poorly paid for my trouble. In the first place, my hen-house, in the warm season of the year, is so infested with hen lice, as they are called here, that it is almost impossible to make the hens stay on their nests until the eggs are hatched. The moment a person enters the door, they appear to come from every direction right down upon him; and if by any chance, there happens a few eggs to get hatched out, the chickens are soon taken with a disease called the gapes, and very few if any survive. The best thing I have ever yet found for this disease, is ground black pepper and butter, mixed well together, put down their throats; this, if applied soon enough, I think is a pretty certain cure. Any information upon either of those evils would be thankfully received; also the best method for building hen-houses, so that they may be the easiest cleaned, accommodate the most hens, and keep them the warmest in winter."

Mr. Eli Westfall, of Rhinebeck, gives the following remedy:—

"Remove the worms out of the windpipe and they will get well. This can be done with safety and facility after a little practice, in the following manner. Let some one take the chicken, holding its legs in one hand and placing the other over its back, so as to hold it firm; then let the operator take a small hen's feather or a large pigeon's feather, and strip off the feather from the stem excepting about an inch or inch and a half from the tip end, according to the size of the chicken. Wet it a little, and strip that part back so that what remains on the stem, will stand back like the barbs on an arrow, excepting the extreme point, which roll a little so as to make a point; then let the operator take the head of the chicken in his left hand, placing his thumb and forefinger on each side of the bill, in such a manner as to hold the mouth open, the neck gently but firmly drawn out in a straight line; then observe the opening back in the tongue, place the feather as near to it as possible, and when the chicken breathes, the windpipe will be open, enter the point quick, and fear not after the point is entered; push down gently from two to three inches, (don't be in too much of a hurry;) then draw out, and turn the feather as it is drawn, and the worms will adhere to the feather, and others will be loosened, and the chicken will sneeze them up frequently, so that they will fly out of their mouths. It is not advisable to enter the feather more than twice at one time; let the chicken go, and if it gapes the day after, you have not got them all; try again. This is a sure cure if attended to; generally you need not perform the operation more than once, but sometimes oftener. My chickens, over 100 in number, never had it worse; the greater part have had it, and I have lost but one, and that was doubtless neglected too long; and I never saw a lot of chickens thrive better in my life. I have taken out as many as eleven worms at one haul. One of my goslings, not long since, appeared to have the gapes. It was something new to me, I never had heard of goslings being subject to it; I thought the goslin would soon die; it occurred to my mind that it was not an impossibility. I tried the remedy, and the goslin is now well and thriving."

"J. R. S." of Fultonville, says:—

"Hens having chickens are usually kept confined while the chickens are small, and too often so that they cannot get to the ground. When thus confined, it should always be on the ground, and in a good sized moveable coop, which should be moved so as to occupy a new position on the ground, as often as once in ten days. Such a course will have a tendency to prevent the young brood from becoming lousy; for it is well known chickens cannot thrive if covered with vermin. I not only feed and water such broods several times in a day, but I cut grass and clover into short pieces and place it in the coop, and have the satisfaction of seeing it greedily devoured. In addition to this course of treatment, I almost daily, dig earth worms for them. I hear my

neighbors often complain that their chickens are lousy, or have 'the gapes,' either of which will destroy them. I seldom lose chickens from either, and attribute my success to the course of treatment as above recommended. Thousands upon thousands of chickens would probably be saved annually, by a little attention to the course I pursue. Lice may be destroyed by placing lard beneath the wings and on the back of the chicken. A sure remedy for the gapes I have not yet discovered; but have heard a very simple one given, which I have had no opportunity to test. It was to extract a few of the end feathers from the wings, the barrel of which it is said will be found to be black. Fowls, while laying, should be well fed, and the size of the eggs will generally determine their keeping; as the eggs are largest when the fowls are best fed."

## AGRICULTURAL SOCIETIES.

DUTCHESS Co.—We have inadvertently omitted to notice the formation of an agricultural society in Dutchess county in March last, on which occasion an excellent address was delivered by H. WHEATON, Esq. which has been published in the papers of that county. We had intended to have made room for at least a part of this address before this, but the press of original papers has prevented. The following persons were appointed officers:—

President, Abraham Bockee; Vice Presidents, James F. Sheafe, Morgan Carpenter, Henry Staats, Theodore Allen; Corresponding Secretary, John B. James; Recording Secretary, John Bodden; Treasurer, George M. Hatch; Executive Committee, Edward K. James, Poughkeepsie; Henry Mesier, Fishkill; Philip N. Bonesteel, Red Hook; John Wilson, Milan; Freeborn Garretson, Rhinebeck; Abraham Suydam, Hyde-Park; Dr. Wheeler Gilbert, Beckman; Gilbert V. Wilkinson, Union Vale; John Thompson, Stanford; Moses Clark, North East; Obadiah Titus, Washington; Allen Thompson, Pine Plains; Alexander H. Grant, Dover; Thomas Swift, Amenia; Martin W. Collins, Pleasant Valley; Dr. John Dodge, Clinton; Peter R. Sleight, La Grange; Albert T. Akin, Pawlings.

On the 3d of June, a meeting was held at Pawlings, at which "The Young Men's Agricultural Society of Eastern Dutchess," was organized. Edward Merritt was appointed President; Isaac Aiken, Vice President; Geo. H. Tabor, Secretary; and D. J. Wing, Wm. H. Aiken, R. T. Osborn, Wm. A. Seely, Wm. Pearce, and Aaron Burr, Executive Committee. We wish them every success in their laudable enterprise, and hope they will by their energy and efficiency set an example worthy to be followed by their seniors.

GENESEE AGRICULTURAL SOCIETY.—At a meeting held at Rochester, on the 28th of May, a society was organized under this name. Its officers are Lyman B. Langworthy of Greece, President; Micah Brooks of Mount Morris, Isaac W. Smith of Lockport, and Wm. Garbutt of Wheatland, Vice Presidents; H. M. Ward, Rochester, Recording Secretary; M. B. Bateham, do. Cor. Secy; Henry E. Rochester, Gates, Treasurer; Oliver Culver, of Brighton, Rawson Harmon, Jr. of Wheatland, Enoch Strong, of Perinton, John J. Thomas, of Macedon, John B. Smith, of Ogdens, Thomas Weddle, of Greece, John H. Robinson, of Henrietta, Managers.

## NOTICE TO AGENTS.

We have a large amount charged on our books to agents, for the current vol. of the Cultivator, which it would greatly oblige the proprietors to have liquidated with as little delay as possible. Those who have not paid their subscriptions, would materially aid us by making immediate payment to the agents to whom they subscribed, so as to enable them to settle their accounts.

## Notice to Correspondents, &amp;c.

POSTAGE OF THE CULTIVATOR.—We have complaints from several post-offices, in relation to the charge of postage on the Cultivator, some postmasters charging as high as five cents per No. The Postmaster-General has decided, that it is subject to newspaper postage only, viz.—one cent if within this state, or within 100 miles of Albany out of the state, and one and a half cents if more than 100 miles from Albany out of the state.

PARKER'S BUTTER TABLE.—We sent the inquiries of "W. T. L." to Mr. Parker, and shall publish his reply when received.

THE BARBERRY.—An answer to the inquiries from Skaneateles, on the subject of the Barberry, illustrated by engravings, will be given next month.

GYPSUM.—A letter from Mr. H. Hawley says, "I would solicit information with regard to the chemical agency of gypsum. The necessity of this will be seen, if Mr. Doubleday's theory (current vol. Cult. p. 50.) be correct. I hope that gentleman will write again. I should also be happy to see any interesting account of facts and experiments, with all the details, on this subject."

CORRECTIONS.—In the last sentence of the article headed "mortality among swine," page 90, for "consumption," read constipation.

Mr. Lossing desires us to say, that an error occurred in transcribing the description of the Berkshire pig, in his communication published in the May No. page 70. Instead of "the tail invariably white," it should read "occasionally white."

We trust our old friend, J. F., of Springfield, Ill., will excuse us for the omission of his rebuke. It is our aim to avoid every thing that savors of personali-

ty. All who are engaged in promoting the interests of agriculture, are enlisted in a good cause, and their errors or foibles should be treated with lenity and corrected in kindness. We thank him for the information he has given us, as it may be useful hereafter.

Several communications now in type, are necessarily deferred till next month.

## THE MARKETS.

New-York, June 27.—Pot Ashes are in request at \$4.50, and Pearls dull at \$5.50. The sales of cotton for the week foot up 6000 bales.—Uplands and Florida 6½a9½ cts; N. Orleans and Mobile 7a11cts. Flour.—The sales of Genesee are at \$4.56 a62, and sometimes at \$4.50; Ohio, &c, \$4.25a37. Sales of Ind. Wheat, via New-Orleans at 95a98 cts. Northern Rye at 52; Oats, 24a25 cts. for Southern, and 34a35 cts. for Northern. A cargo of prime White Virginia Corn sold at 52 cts. per bu. cash, 56 lbs; Northern White 53 cts. and Yellow 55 cts. Nothing new in Hemp. Beef.—Mess, 14a14.25. Pork, mess, 14.75a15.25, prime 9.75a10, cargo 6a6.50.—Lard 10a10½.—Butter, Goshen, 15.—Cheese, 5a6.—Hams, smoked, 10a11.—Wool, Sax. fleece, 32a35—full blood Merino, 30a33½ and 1 blood, 25a30—native, 20a23.

Boston, June 27.—Wool.—All kinds are uncommonly dull. Some small parcels American, of the new clip, have sold this week, but at low prices, below our present quotations, which are nominal.

Grain.—The sales of yellow corn have been at 54 cts. and white, of good quality, at 51 cts. A few cargoes of rather ordinary, have sold at 50 cts. Sales of Southern Oats at 32a 34½ per bushel. Rye is dull, and no sales making. Sales by auction of foreign white Beans at \$1.50a\$2 per bushel, cash.

Hops.—Sales of 40 or 50 bales, growth of 1838, at 20 cts. per lb. cash. There are none of last year's growth in market.

Philadelphia, June 26.—Flour and Meal.—The stock is small, receipts light, and prices fully maintained. Fresh ground has been sold at an advance of 12½ cts. per bbl. The supplies will probably be moderate till after the harvest. We quote Ohio \$4½ a\$4.50; Pennsylvania old, \$4.62½; fresh ground, \$4.75; Bran-dywine \$5 per barrel. Sales of 100 hds. Corn Meal at \$13 50. Rye and Corn Meal in bbls. \$2.75. Cleared this week, 3296 bbls. superfine Flour, 56 hds. and 1313 bbls. Corn Meal, and 875 bbls. Rye Flour.

Grain.—Wheat is steady, with small receipts, sales at 98a 100 cts per bushel; Yellow Corn afloat, quick at 50 cts; White do. 46 cts.—an English order at that rate in market for 10 or 12,000 bushels. Oats, afloat by the cargo at 28 cts. per bushel. Exported, foreign, 700 bushels.

Hemp.—18 tons clean Kentucky to close sales at \$150 per ton.

Provisions.—Sales of Beef and Pork at former prices for ship stores. Bacon finds ready sale at 7, 8, and 9a10 cents for Shoulders, Sides and Hams; but little more expected this season from the West. Lard is scarce; a lot of 110 kegs uninspected, sold at 10 cts.

Wool.—The new clip is just coming in, but the depressed state of Woolen manufactures keeps the article dull and without any fixed price.

Richmond, June 25.—The effect of the late foreign news has not been manifested in any very great change in prices, but operations in all the staples of our markets have certainly lessened to a considerable extent. The article of flour seems to have felt some shock, and sales cannot now be made at former rates. Holders offer it, at \$4.50, at which price any quantity might be purchased, but no buyers can be found in the market. Should the fears of some be realized, and from the late northern accounts it would seem likely they should, the article will fall even as low as \$4. The recent commercial reports from New-York, hold out the idea that flour cannot be shipped from that port at a price over \$4, to realize a profit to the exporter. Should this be true, the article must fall much lower than it has been for years. The crops in Europe being two months later than ours, are by no means made yet, and much still depends upon the favorable or unfavorable state of the weather there.

Flour.—No sales. Holders offering at \$4. We can report nothing decisive about wheat. Millers exceedingly shy, and offers have not been made, or if they have, they are not public. Some rumors are afloat that the opening price has been fixed at 50 cts. but we have no authority for saying so.

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